K8V-F

User Guide

Motherboard

E1527

First Edition V1

January 2004

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Notices

Federal Communications Commission Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- This device may not cause harmful interference, and
- This device must accept any interference received including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with manufacturer's instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

The use of shielded cables for connection of the monitor to the graphics card is required to assure compliance with FCC regulations. Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

Canadian Department of Communications Statement

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

This class B digital apparatus complies with Canadian ICES-003.

Safety information

Electrical safety

- To prevent electrical shock hazard, disconnect the power cable from the electrical outlet before relocating the system.
- When adding or removing devices to or from the system, ensure that the power cables for the devices are unplugged before the signal cables are connected. If possible, disconnect all power cables from the existing system before you add a device.
- Before connecting or removing signal cables from the motherboard, ensure that all power cables are unplugged.
- Seek professional assistance before using an adpater or extension cord. These devices could interrupt the grounding circuit.
- Make sure that your power supply is set to the correct voltage in your area. If you are not sure about the voltage of the electrical outlet you are using, contact your local power company.
- If the power supply is broken, do not try to fix it by yourself. Contact a qualified service technician or your retailer.

Operation safety

- Before installing the motherboard and adding devices on it, carefully read all the manuals that came with the package.
- Before using the product, make sure all cables are correctly connected and the power cables are not damaged. If you detect any damage, contact your dealer immediately.
- To avoid short circuits, keep paper clips, screws, and staples away from connectors, slots, sockets and circuitry.
- Avoid dust, humidity, and temperature extremes. Do not place the product in any area where it may become wet.
- Place the product on a stable surface.
- If you encounter technical problems with the product, contact a qualified service technician or your retailer.

About this guide

Conventions used in this guide

To make sure that you perform certain tasks properly, take note of the following symbols used throughout this guide.

WARNING: Information to prevent injury to yourself when trying to complete a task.

CAUTION: Information to prevent damage to the components when trying to complete a task.

IMPORTANT: Information that you MUST follow to complete a task.

NOTE: Tips and additional information to aid in completing a task.

Where to find more information

Refer to the following sources for additional information and for product and software updates.

1. **Websites**

   Visit the TARGA® website (www.targa-online.com) to download the latest BIOS for this motherboard. Use ONLY the TARGA® OEM BIOS when updating the motherboard BIOS. Other BIOS updates may corrupt the BIOS ROM.

   The ASUS websites worldwide provide updated information on ASUS hardware and software products.

2. **Optional documentation**

   Your product package may include optional documentation, such as warranty flyers, that may have been added by your dealer. These documents are not part of the standard package.

K8V-F specification summary for TARGA® PC

CPU	Socket 754 for AMD Athlon™ 64 processor with built-in L2 cache up to 1MB AMD64 architecture supports simultaneous 32-bit and 64-bit computing
Chipset	VIA K8T800 VIA VT8237
System bus	Scalable HyperTransport™ Bus
Memory	2 x 184-pin DDR DIMM sockets for up to 2GB unbuffered non-ECC PC3200/PC2700/PC2100 SDRAM memory
Expansion slots	1 x AGP 8X/4X 5 x PCI
Storage	2 x UltraATA133 connectors 1 x Floppy disk drive connector
Audio	Realtek ALC655 6-channel audio CODEC Digital audio via S/PDIF In/Out interface
LAN	Integrated 10/100 Mbps LAN controller in the southbridge with Realtek RTL8201BL/CL LAN PHY
IEEE 1394	VIA VT6307 IEEE 1394 controller supports two 1394 ports
Special features	ASUS MyLogo ASUS Update
Rear panel I/O	1 x Parallel port 1 x Serial port 1 x PS/2 keyboard port 1 x PS/2 mouse port 4 x USB 2.0 ports 1 x IEEE 1394 port 1 x S/PDIF out port 1 x RJ-45 port Line In/Line Out/Microphone ports
Internal I/O	2 x USB 2.0 connectors for 4 additional USB ports IEEE 1394 connector for an additional IEEE 1394 port CPU/chassis fan connectors 20-pin/4-pin ATX 12V power connectors CD/AUX connectors S/PDIF In connector Front panel audio connectors Panel connector

(Continued on next page)

K8V-F specification summary for TARGA® PC

BIOS features	4Mb Flash EEPROM AMI BIOS with enhanced ACPI, PnP, DMI2.0, Green,TCAV, ASUS EZ Flash
Industry standard	PCI 2.2, USB 2.0/1.1
Manageability	DMI 2.0, WOL/WOR by PME, Wake on USB/KB/Mouse
Form Factor	ATX form factor: 12 in x 9.6 in (30.5 cm x 24.4 cm)
Support CD contents	Device drivers ASUS PC Probe ASUS Update Trend Micro™ PC-cillin 2002 anti-virus software Adobe® Acrobat Reader® V5.0 ASUS Screensaver Cool 'n' Quiet™ Software

Specifications are subject to change without notice.

Chapter 1

This chapter describes the features of this motherboard. It includes brief explanations of the special attributes of the motherboard and the new technology it supports.

Product introduction

1.1 Welcome!

Thank you for buying the ASUS® K8V-F motherboard!

The ASUS K8V-F motherboard delivers a host of new features and latest technologies making it another standout in the long line of ASUS quality motherboards!

Before you start installing the motherboard, and hardware devices on it, check the items in your package with the list below.

1.2 Package contents

Check your K8V-F package for the following items.

- ✓ ASUS K8V-F motherboard
- ✓ ASUS K8V-F motherboard series support CD
- ✓ I/O shield
- ✓ User Guide

If any of the above items is damaged or missing, contact your retailer.

1.3 Special features

1.3.1 Product highlights

AMD Athlon™ 64 processor support

The K8V-F motherboard comes with a 754-pin surface mount, Zero Insertion Force (ZIF) socket that supports the AMD Athlon™ 64 processor. With an integrated low-latency high-bandwidth memory controller and a highly-scalable HyperTransport™ technology-based system bus, K8V-F provides a powerful platform for your diverse computing needs. HyperTransport™ features a 16-bit/1.6GHz data transfer rate between the processor and the K8V-F chipset for a total 6.4 GB/s bandwidth. This speeds up the link between computer peripherals and optimizes over-all system performance. **See page 1-8**.

VIA K8T800 and VT8237 chipset

Embedded in the K8V-F motherboard is the VIA K8T800 and VT8237 chipset.

The VIA K8T800 northbridge is a 64-bit processor controller that utilizes the HyperTransport™ bus link to interconnect with the AMD 64 processor. K8T800 supports AGP 8X and communicates with the southbridge chip using the VIA proprietary V-Link interface.

The VT8237 southbridge employs the VIA DriveStation™ Controller Suite that enables multiple drive configuration through native Serial ATA, RAID, and Parallel ATA133 support. This chip also supports USB 2.0, IEEE 1394, MC97, Gigabit Ethernet, PCI and LPC interfaces and allows 6 and 7.1-channel audio through the VIA Vinyl Audio technology.

DDR400 support

The K8V-F features a single memory architecture for up to 2GB system memory. Two 184-pin DIMM sockets are available for installation of unbuffered non-ECC PC3200/2700/2100 DDR DIMMs.**See page 1-10**.

Integrated 10/100 Mbps LAN

Onboard is a Realtek 8201BL/CL LAN PHY that works with the integrated MAC in the VT8237 southbridge to fully support 10BASE-T/ 100BASE-TX Ethernet networking. **See page 1-18**.

6-channel and digital audio solution

Providing high-quality, 6-channel audio solution is the Realtek ALC655 Audio CODEC. K8V-F also comes with a rear panel S/PDIF out jack and a S/PDIF in connector at midboard to turn your computer into a high-end entertainment system with digital connectivity to powerful sound systems. **See page 1-18 and 1-20**.

AGP 8X support

AGP 8X (AGP 3.0) is the next generation VGA interface specification that enables enhanced graphics performance with high bandwidth speeds of up to 2.12 GB/s. **See page 1-15**.

IEEE 1394 support

The IEEE 1394 interface provides high-speed and flexible PC connectivity to a wide range of peripherals and devices compliant to IEEE 1394 standards. The IEEE 1394 interface allows up to 400Mbps transfer rates through simple, low-cost, high-bandwidth asynchronous (real-time) data interfacing between computers, peripherals, and consumer electronic devices such as camcorders, VCRs, printers,TVs, and digital cameras. **See page 1-18 and 1-21**.

USB 2.0 technology

The motherboard implements the new Universal Serial Bus (USB) 2.0 specification that increases the connection speed from 12 Mbps on USB 1.1 to a fast 480 Mbps. The higher bandwidth of USB 2.0 allows connection of devices such as high resolution video conferencing cameras, next generation scanners and printers. USB 2.0 is backward compatible with USB 1.1. **See page 1-18 and 1-23**.

1.3.2 ASUS unique features

EZ Flash BIOS

With the ASUS EZ Flash, you can easily update the system BIOS even before loading the operating system. No need to use a DOS-based utility or boot from a floppy disk. **See page 2-5**.

MyLogo™

The MyLogo™ feature allows you to personalize and add style to your system with customizable boot logos. **See page 2-30**.

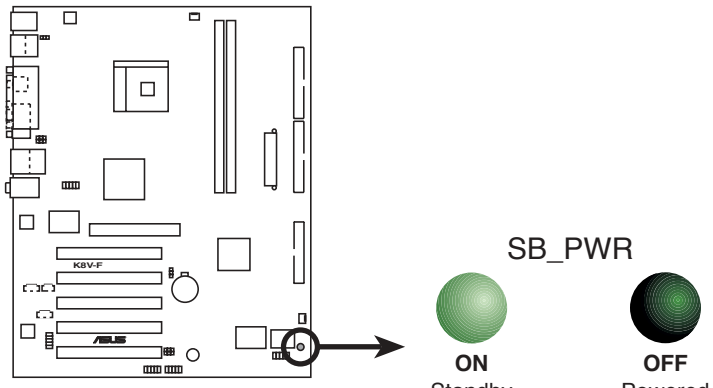
1.4 Before you proceed

Take note of the following precautions before you install motherboard components or change any motherboard settings.

1. Unplug the power cord from the wall socket before touching any component.
2. Use a grounded wrist strap or touch a safely grounded object or to a metal object, such as the power supply case, before handling components to avoid damaging them due to static electricity.
3. Hold components by the edges to avoid touching the ICs on them.
4. Whenever you uninstall any component, place it on a grounded antistatic pad or in the bag that came with the component.
5. **Before you install or remove any component, ensure that the ATX power supply is switched off or the power cord is detached from the power supply.** Failure to do so may cause severe damage to the motherboard, peripherals, and/or components.

Onboard LED

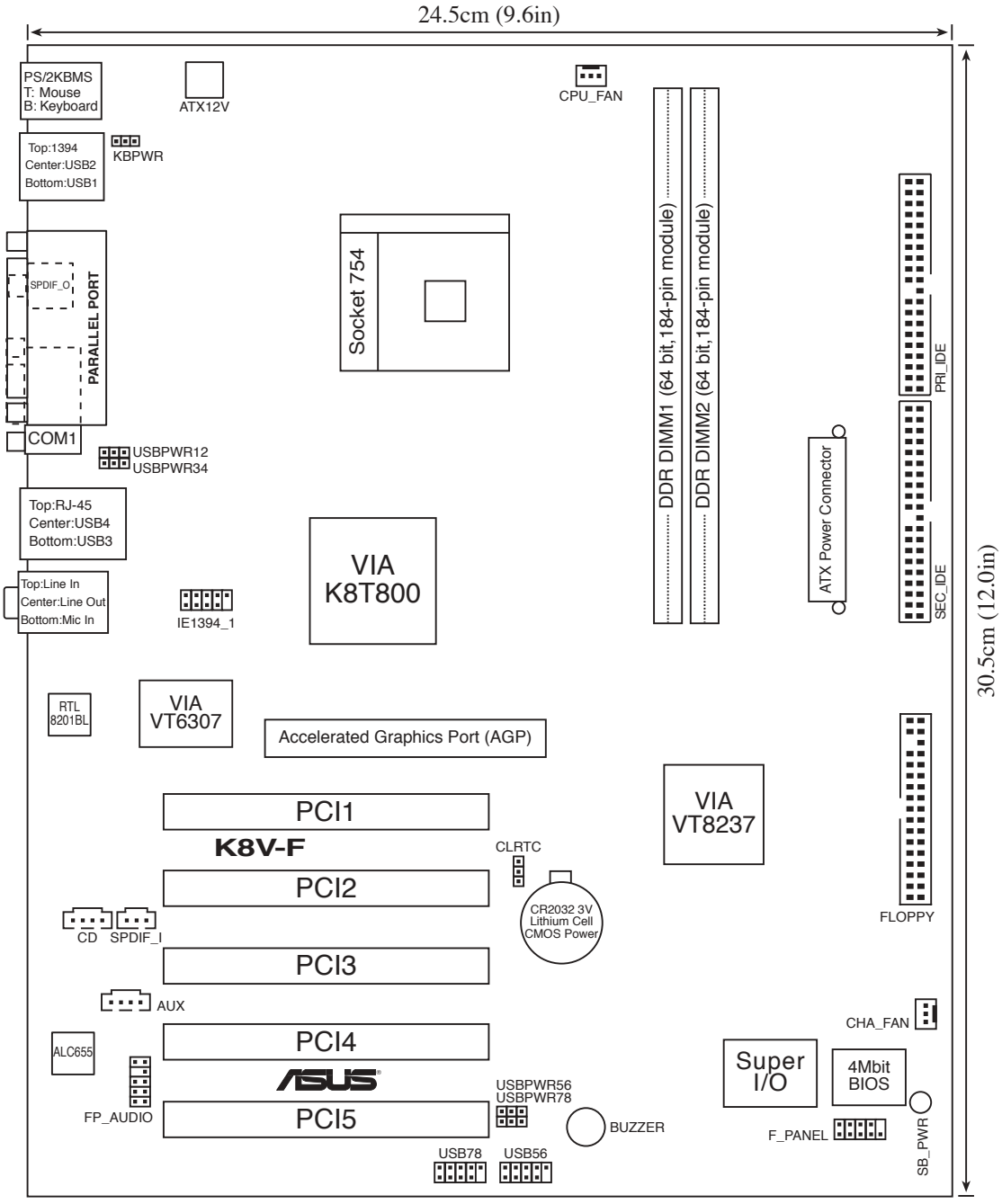
The K8V-F motherboard comes with a standby power LED. When lit, this green LED (SB_PWR) indicates that the system is ON, in sleep mode, or in soft-off mode, a reminder that you should shut down the system and unplug the power cable before removing or plugging in any motherboard component.



K8V-F Onboard LED

1.5 Motherboard overview

1.5.1 Motherboard layout



1.5.2 Placement direction

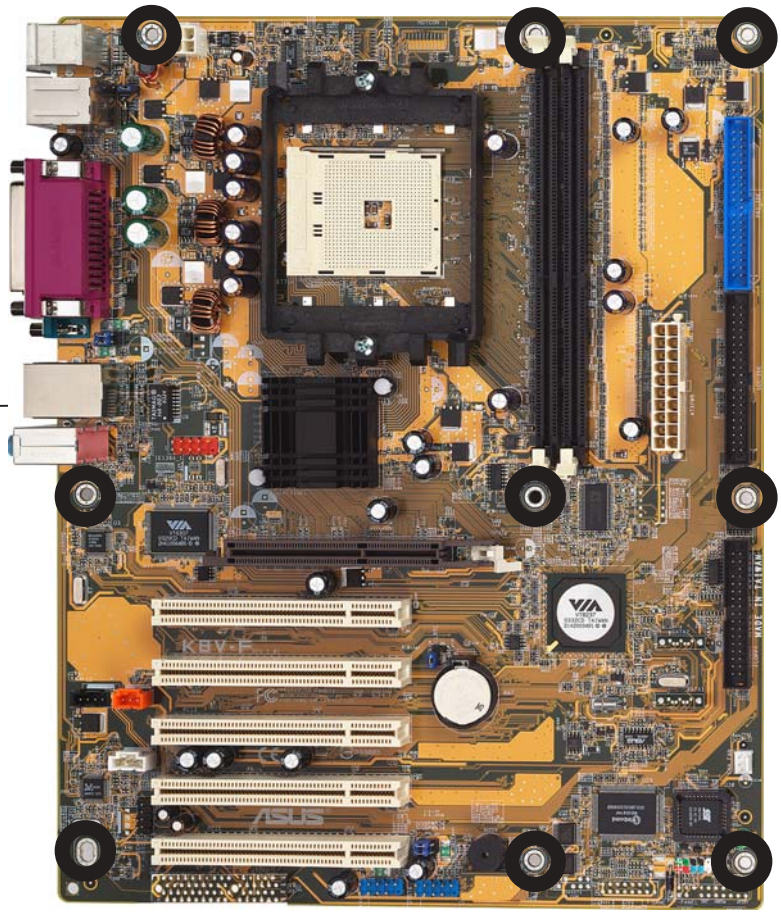
When installing the motherboard, make sure that you place it into the chassis in the correct orientation. The edge with external ports goes to the rear part of the chassis as indicated in the image below.

1.5.3 Screw holes

Place nine (9) screws into the holes indicated by circles to secure the motherboard to the chassis.

Do not overtighten the screws! Doing so may damage the motherboard.

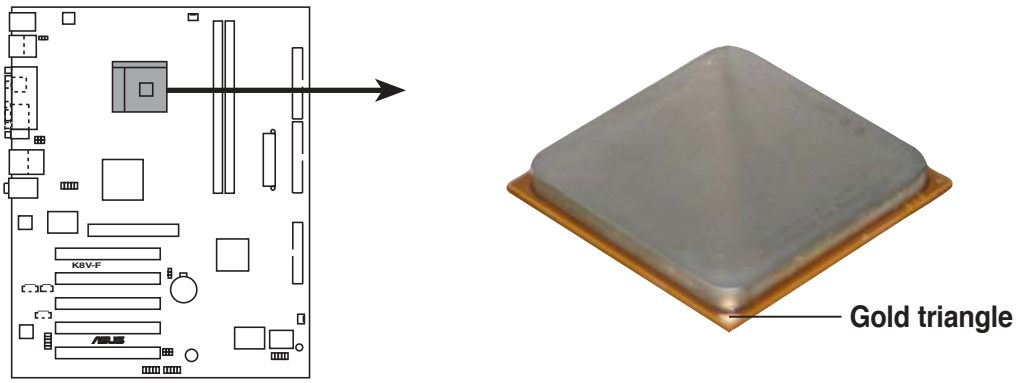
Place this side towards the rear of the chassis



1.6 Central Processing Unit (CPU)

1.6.1 Overview

The AMD Athlon™ 64 processor has a gold triangle in one corner. This mark indicates the processor Pin A1 that should match a specific corner of the CPU socket.



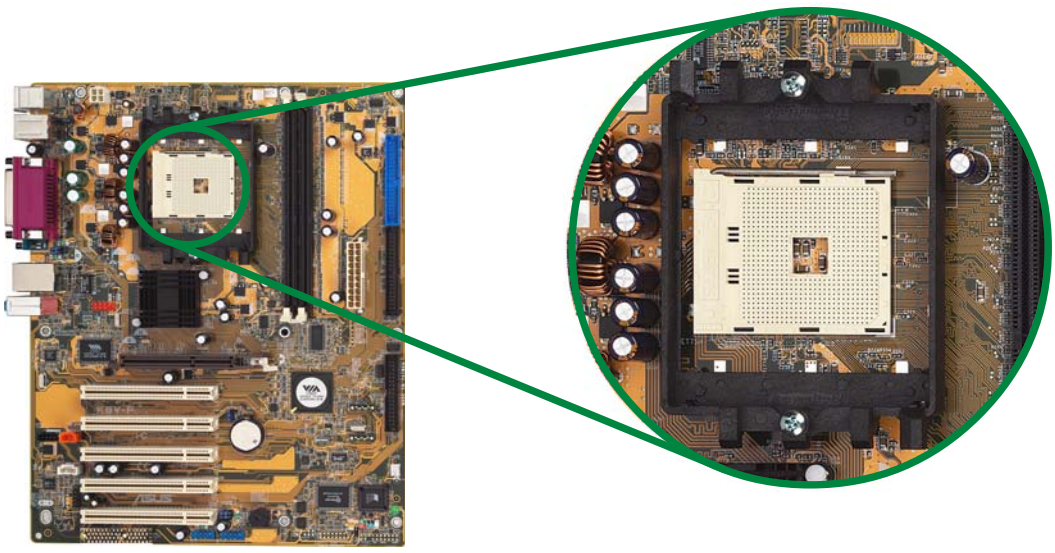
K8V-F Socket 754

Incorrect installation of the CPU into the socket may bend the pins and severely damage the CPU!

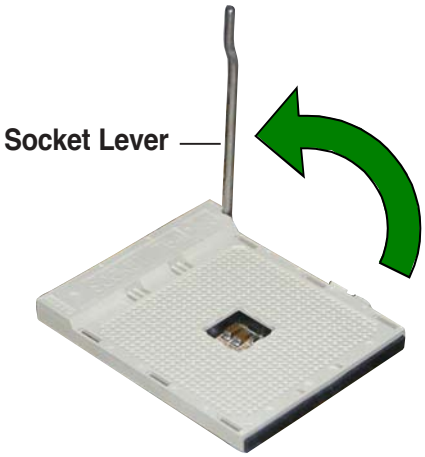
1.6.2 Installing the CPU

Follow these steps to install a CPU.

1. Locate the 754-pin ZIF socket on the motherboard.



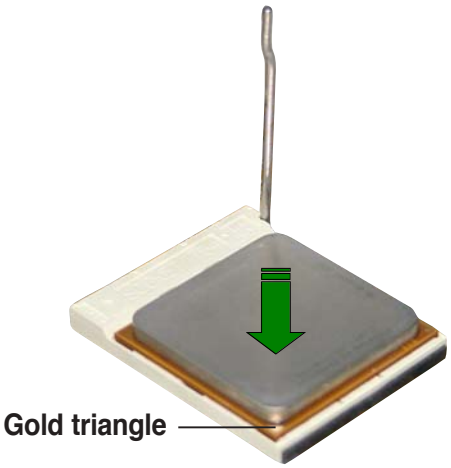
2. Unlock the socket by pressing the lever sideways, then lift it up to a 90°-100° angle.



Make sure that the socket lever is lifted up to 90°-100° angle, otherwise the CPU does not fit in completely.

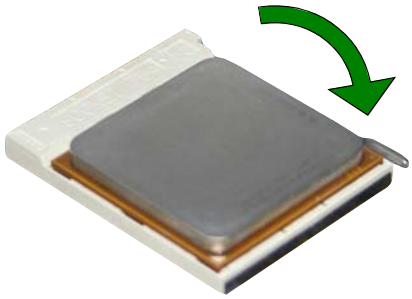
3. Position the CPU above the socket such that the CPU corner with the gold triangle matches the socket corner with a small triangle.

4. Carefully insert the CPU into the socket until it fits in place.



The CPU fits only in one correct orientation. DO NOT force the CPU into the socket to prevent bending the pins and damaging the CPU!

5. When the CPU is in place, push down the socket lever to secure the CPU. The lever clicks on the side tab to indicate that it is locked.
6. Install a CPU heatsink and fan following the instructions that came with the heatsink package.
7. Connect the CPU fan cable to the CPU_FAN connector on the motherboard.

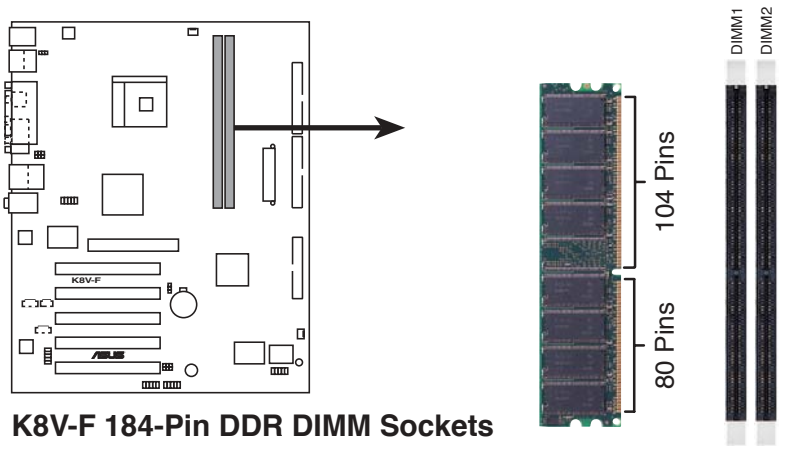


1.7 System memory

1.7.1 Overview

The motherboard comes with two Double Data Rate (DDR) Dual Inline Memory Module (DIMM) sockets. These sockets support up to 2GB system memory using 184-pin PC3200/PC2700/PC2100 unbuffered DDR DIMMs and allow up to 3.2 GB/s data transfer rate.

The following figure illustrates the location of the DDR DIMM sockets.



K8V-F 184-Pin DDR DIMM Sockets

1.7.2 Memory configurations

You may install 64MB, 128MB, 256MB, 512MB and 1GB DDR DIMMs into the DIMM sockets.

For optimum compatibility, it is recommended that you obtain memory modules from qualified vendors. See the Qualified Vendors List (QVL) next page.

Qualified DDR400 DIMMs

The following table lists the PC3200 (DDR400) memory modules that have been tested and qualified for use with this motherboard.

Obtain DDR DIMMs only from ASUS qualified vendors for better system performance.

Table 1: DDR400 Qualified Vendor List (QVL)

Size	Vendor	Part Number	Chip Brand	Side/s*	Chip Number
512MB	MICRON	MT16VDDT6464AG-40BC4	MICRON	DS	MT46V32M8TG-5BC
256MB	A-DATA	MDOAD5F3G315B1EC2	A-DATA	SS	ADD8608A8A-5B
256MB	A-DATA	MDOAD5F3G31YB1EZ2	A-DATA	SS	ADD8608A8A-5B
256MB	A-DATA	MDOSS6F3G31JB1EAE	Samsung	SS	K4H560838D-TCC4
512MB	ATP	AG64L64T8SQC4S	Samsung	DS	K4H560838D-TCC4
256MB	Brain Power	B6U808-256M-SAM-400	Samsung	SS	K4H560838D-TCC4
512MB	Brain Power	B6U808-512M-SAM-400	Samsung	DS	K4H560838D-TCC4
128MB	Infineon	HYS64D16301GU-5-B	Infineon	SS	HYB25D256160BT-5B
128MB	Nanya	NT128D64SH4B1G-5T	Nanya	SS	NT5DS16M16BT-5T
256MB	Nanya	NT256D64S88B1G-5T	Nanya	SS	NT5DS32M8BT-5T
512MB	Nanya	N512D64S8HB1G-5T	Nanya	DS	NT5DS32M8BT-5T
256MB	Samsung	M368L3223ETM-CCC	SAMSUNG	SS	K4H560838E-TCCC
256MB	TwinMOS	M2S9I08AFAPS9F0811A-T	PSC	SS	A2S56D30ATP
512MB	TwinMOS	M2G9J16AGATT9F081AA4T	TwinMOS	DS	TMD7608F8E50D
256MB	TwinMOS	M2G9I08AFTT9F0811DDT	TwinMOS	SS	TMD7608F8E50B
256MB	Winbond	W9425GCDB-5	Winbond	SS	W942508CH-5
512MB	Winbond	W9451GCDB-5	Winbond	DS	W942508CH-5

*** Side/s:**
DS - Double-sided SS - Single-sided

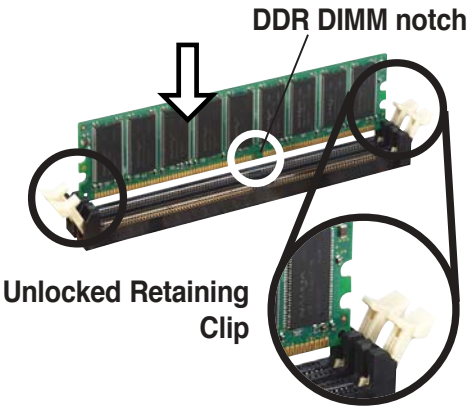
Visit the ASUS website (www.asus.com) for the latest DDR400 QVL for this motherboard.

1.7.3 Installing a DIMM

Make sure to unplug the power supply before adding or removing DIMMs or other system components. Failure to do so may cause severe damage to both the motherboard and the components.

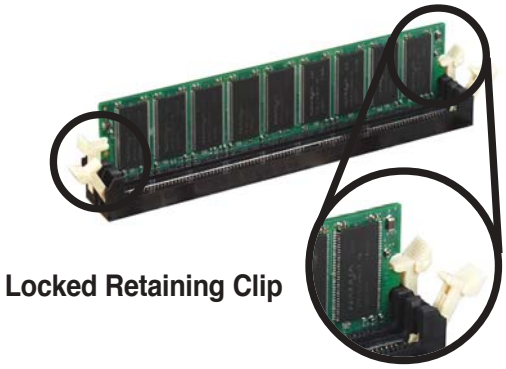
Follow these steps to install a DIMM.

1. Locate the DIMM sockets in the motherboard.
2. Unlock a DIMM socket by pressing the retaining clips outward.
3. Align a DIMM on the socket such that the notch on the DIMM matches the break on the socket.



A DDR DIMM is keyed with a notch so that it fits in only one direction. DO NOT force a DIMM into a socket to avoid damaging the DIMM.

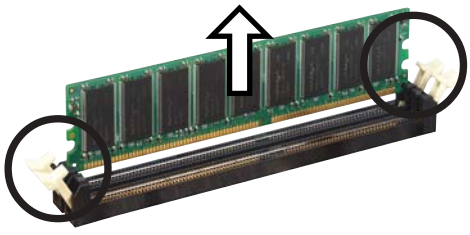
4. Firmly insert the DIMM into the socket until the retaining clips snap back in place and the DIMM is properly seated.



1.7.4 Removing a DIMM

Follow these steps to remove a DIMM.

1. Simultaneously press the retaining clips outward to unlock the DIMM.



Support the DIMM lightly with your fingers when pressing the retaining clips. The DIMM might get damaged when it flips out with extra force.

1.8 Expansion slots

In the future, you may need to install expansion cards. The following sub-sections describe the motherboard slots and the expansion cards that they support.

Make sure to unplug the power cord before adding or removing expansion cards. Failure to do so may cause you physical injury and damage motherboard components.

1.8.1 Installing an expansion card

Follow these steps to install an expansion card.

1. Before installing the expansion card, read the documentation that came with it and make the necessary hardware settings for the card.
2. Remove the system unit cover (if your motherboard is already installed in a chassis).
3. Remove the bracket opposite the slot that you intend to use. Keep the screw for later use.
4. Align the card connector with the slot and press firmly until the card is completely seated on the slot.
5. Secure the card to the chassis with the screw you removed earlier.
6. Replace the system cover.

1.8.2 Configuring an expansion card

After installing the expansion card, configure the card by adjusting the software settings.

1. Turn on the system and change the necessary BIOS settings, if any. See Chapter 4 for information on BIOS setup.
2. Assign an IRQ to the card. Refer to the tables on the next page.
3. Install the software drivers for the expansion card.

Standard Interrupt Assignments

IRQ	Priority	Standard Function
0	1	System Timer
1	2	Keyboard Controller
2	N/A	Programmable Interrupt
4*	12	Communications Port (COM1)
5*	13	Sound Card (sometimes LPT2)
6	14	Floppy Disk Controller
7*	15	Printer Port (LPT1)
8	3	System CMOS/Real Time Clock
9*	4	ACPI Mode when used
10*	5	IRQ Holder for PCI Steering
11*	6	IRQ Holder for PCI Steering
12*	7	PS/2 Compatible Mouse Port
13	8	Numeric Data Processor
14*	9	Primary IDE Channel
15*	10	Secondary IDE Channel

* These IRQs are usually available for ISA or PCI devices.

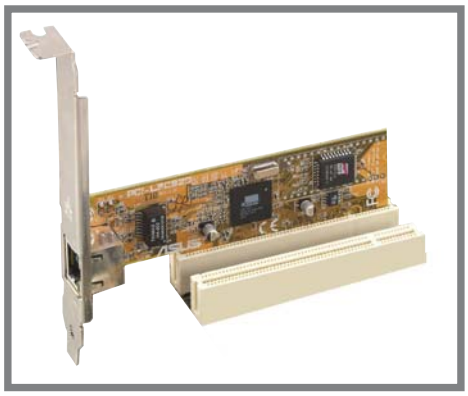
IRQ assignments for this motherboard

	INT A	INT B	INT C	INT D
PCI slot 1	shared	—	—	—
PCI slot 2	—	shared	—	—
PCI slot 3	—	—	shared	—
PCI slot 4	—	—	—	shared
PCI slot 5	shared	—	—	—
Onboard 1394	shared	—	—	—
AGP slot	shared	—	—	—
Onboard audio	—	—	shared	—

When using PCI cards on shared slots, ensure that the drivers support “Share IRQ” or that the cards do not need IRQ assignments. Otherwise, conflicts will arise between the two PCI groups, making the system unstable and the card inoperable.

1.8.3 PCI slots

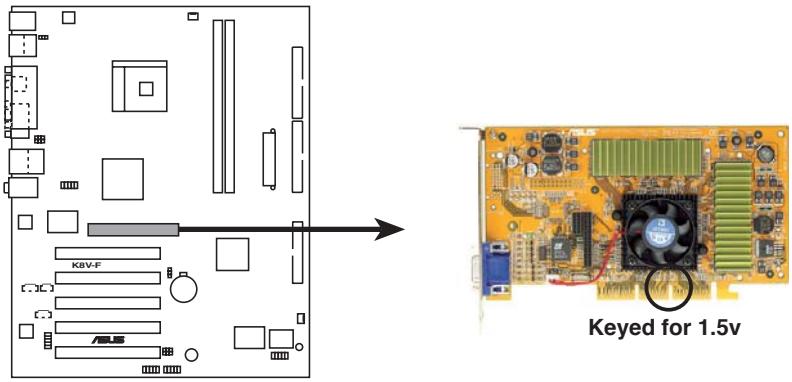
The PCI slots support LAN, SCSI, USB, and other PCI cards that comply with PCI specifications. The figure below shows a LAN card installed on a PCI slot.



1.8.4 AGP slot

The Accelerated Graphics Port (AGP) slot supports AGP 8X (AGP 3.0) specification. Note the notches on the card golden fingers to ensure that they fit the AGP slot on your motherboard.

Install only 1.5V AGP cards on this motherboard! 3.3V AGP cards are not supported in this motherboard.



K8V-F Accelerated Graphics Port (AGP)

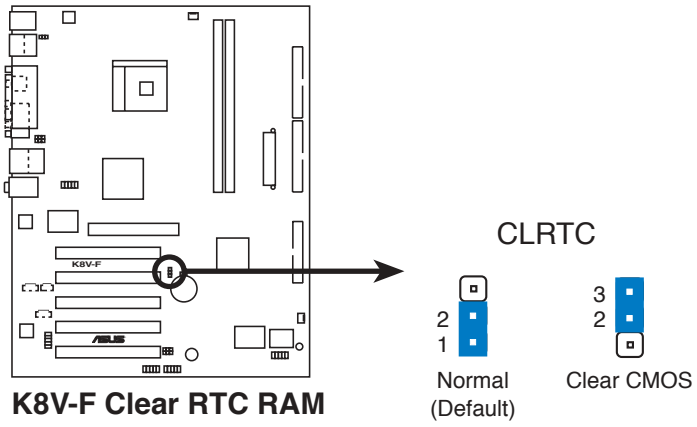
1.9 Jumpers

1. Clear RTC RAM (CLRTC)

This jumper allows you to clear the Real Time Clock (RTC) RAM in CMOS. You can clear the CMOS memory of date, time, and system setup parameters by erasing the CMOS RTC RAM data. The RAM data in CMOS, that include system setup information such as system passwords, is powered by the onboard button cell battery.

To erase the RTC RAM:

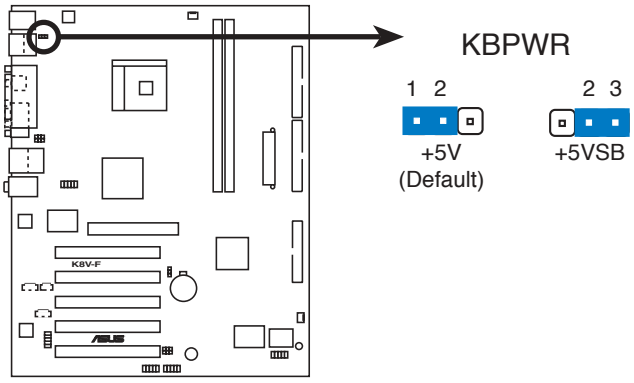
1. Turn OFF the computer and unplug the power cord.
2. Remove the onboard battery.
3. Move the jumper cap from pins 1-2 (default) to pins 2-3. Keep the cap on pins 2-3 for about 5~10 seconds, then move the cap back to pins 1-2.
4. Replace the battery.
5. Plug the power cord and turn ON the computer.
6. Hold down the <Del> key during the boot process and enter BIOS setup to re-enter data.



K8V-F Clear RTC RAM

2. Keyboard power (3-pin KBPWR)

This jumper allows you to enable or disable the keyboard wake-up feature. Set this jumper to pins 2-3 (+5VSB) if you wish to wake up the computer when you press a key on the keyboard (the default value is [Disabled]). This feature requires an ATX power supply that can supply at least 1A on the +5VSB lead, and a corresponding setting in the BIOS (see section 2.5.5 APM Configuration).

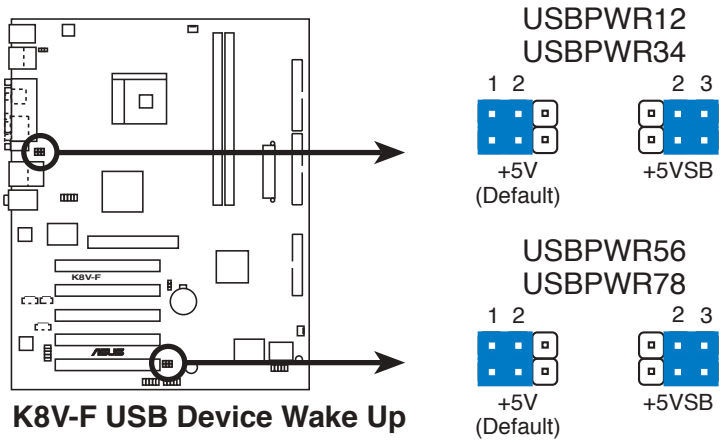


K8V-F Keyboard Power Setting

3. USB device wake-up (3-pin USBPWR12, USBPWR34, USBPWR56, USBPWR78)

Set these jumpers to +5V to wake up the computer from S1 sleep mode (CPU stopped, DRAM refreshed, system running in low power mode) using the connected USB devices. Set to +5VSB to wake up from S3 sleep mode (no power to CPU, DRAM in slow refresh, power supply in reduced power mode). All jumpers are set to pins 1-2 (+5V) by default because not all computers have the appropriate power supply to support this feature.

The USBPWR12 and USBPWR34 jumpers are for the rear USB ports. The USBPWR56 and USBPWR78 jumpers are for the internal USB header that you can connect to the front USB ports.



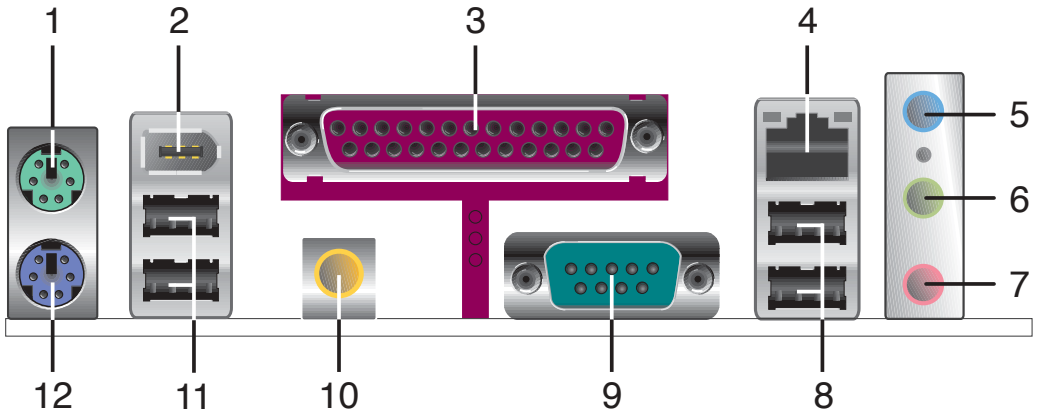
K8V-F USB Device Wake Up

- The USB device wake-up feature requires a power supply that can provide 500mA on the +5VSB lead for each USB port. Otherwise, the system would not power up.
- The total current consumed must NOT exceed the power supply capability (+5VSB) whether under normal condition or in sleep mode.

1.10 Connectors

This section describes and illustrates the rear panel and internal connectors on the motherboard.

1.10.1 Rear panel connectors



1. **PS/2 mouse port.** This green 6-pin connector is for a PS/2 mouse.
2. **IEEE 1394 port.** This 6-pin 1394 port connects provides high speed connectivity for audio/video devices, storage peripherals, or PCs.
3. **Parallel port.** This 25-pin port connects a parallel printer, a scanner, or other devices.
4. **RJ-45 port.** This port allows connection to a Local Area Network (LAN) through a network hub.
5. **Line In port.** This Line In (light blue) port connects a tape player or other audio sources. In 4/6-channel mode, the function of this port becomes Rear Speaker Out.
6. **Line Out port.** This Line Out (lime) port connects a headphone or a speaker. In 4/6-channel mode, the function of this port becomes Front Speaker Out.
7. **Microphone port.** This Mic (pink) port connects a microphone. In 6-channel mode, the function of this port becomes Bass/Center Speaker.

The functions of the Line Out, Line In, and Microphone ports change when you select the 4- or 6-channel audio configuration as shown in the following table.

Audio ports function variation

Audio ports	Headphone /2-Channel	4-Channel	6-Channel
Light Blue	Line In	Rear Speaker Out	Rear Speaker Out
Lime	Line Out	Front Speaker Out	Front Speaker Out
Pink	Mic In	Mic In	Bass/Center

8. **USB 2.0 ports 3 and 4.** These two 4-pin Universal Serial Bus (USB) ports are available for connecting USB 2.0 devices.

9. **Serial port.** This 9-pin COM1 port is for pointing devices or other serial devices.
10. **S/PDIF port.** This port connects to external audio output devices.

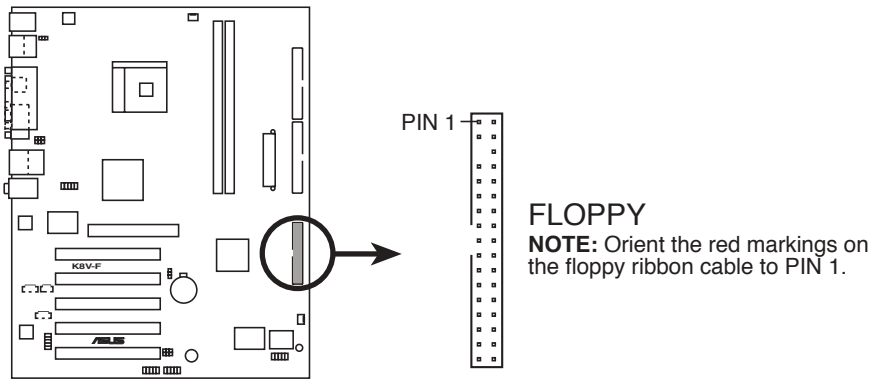
Use 75 ohm impedance matched coaxial cables for your S/PDIF connection.

11. **USB 2.0 ports 1 and 2.** These two 4-pin Universal Serial Bus (USB) ports are available for connecting USB 2.0 devices.
12. **PS/2 keyboard port.** This purple connector is for a PS/2 keyboard.

1.10.2 Internal connectors

1. Floppy disk drive connector (34-1 pin FLOPPY)

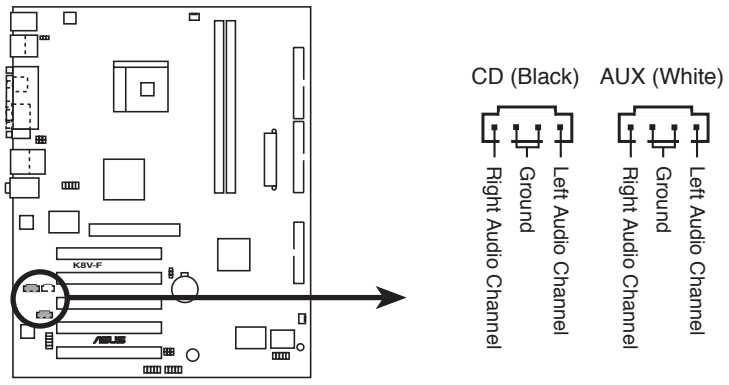
This connector supports the provided floppy drive ribbon cable. After connecting one end to the motherboard, connect the other end to the floppy drive. (Pin 5 is removed to prevent incorrect insertion when using ribbon cables with pin 5 plug).



K8V-F Floppy Disk Drive Connector

2. Internal audio connectors (4-pin CD, AUX)

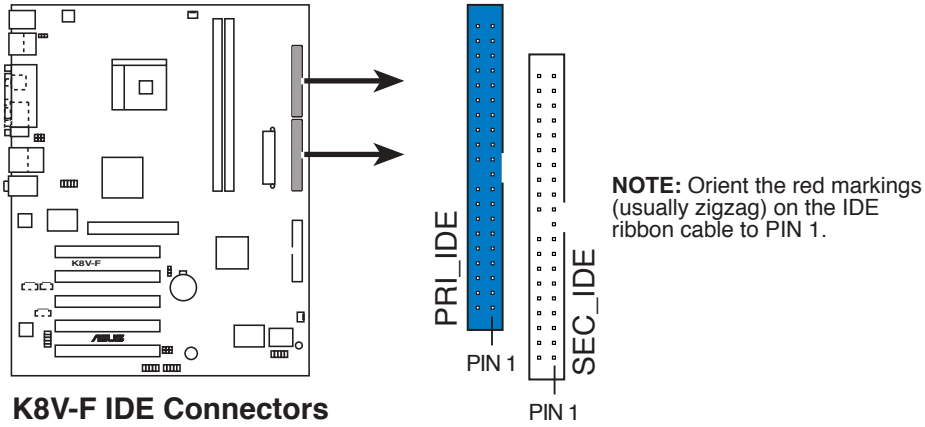
These connectors allow you to receive stereo audio input from sound sources such as a CD-ROM, TV tuner, or MPEG card.



K8V-F Internal Audio Connectors

3. IDE connectors (40-1 pin PRI_IDE, SEC_IDE)

This connector supports the provided UltraATA133 IDE hard disk ribbon cable. Connect the cable's blue connector to the primary (recommended) or secondary IDE connector, then connect the gray connector to the UltraATA133 slave device (hard disk drive) and the black connector to the UltraATA133 master device. Connecting non-UltraATA133 devices to the secondary IDE connector is recommended.



NOTE: Orient the red markings (usually zigzag) on the IDE ribbon cable to PIN 1.

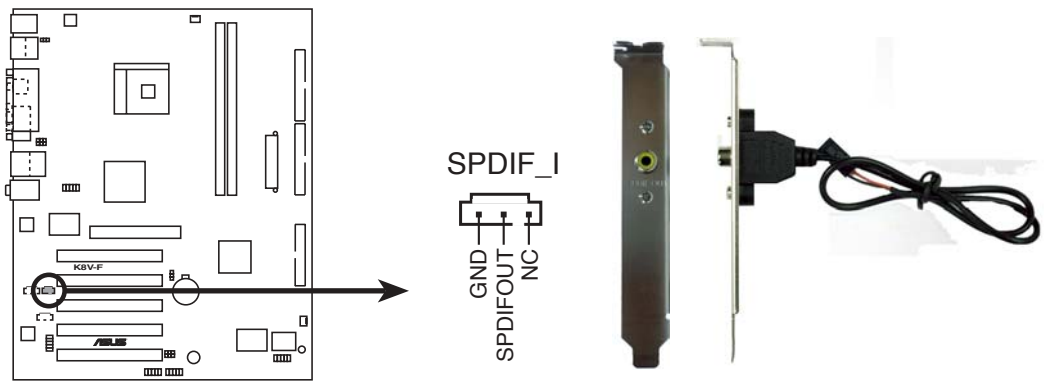
K8V-F IDE Connectors

- Pin 20 on each IDE connector is removed to match the covered hole on the UltraATA cable connector. This prevents incorrect orientation when you connect the cables.
- For UltraATA133 IDE devices, use an 80-conductor IDE cable.
- The hole near the blue connector on the UltraATA133 cable is intentional.

4. Digital audio connector (3- pin SPDIF_I)

This connector is for the S/PDIF audio module that allows digital sound input.

Use 75 ohm impedance matched coaxial cables for your S/PDIF connection.



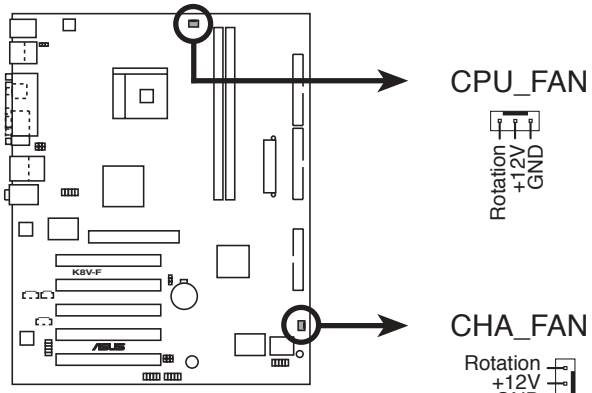
K8V-F Digital Audio Connector

The S/PDIF module is purchased separately.

5. CPU and chassis fan connectors (3-pin CPU_FAN, CHA_FAN)

The fan connectors support cooling fans of 350mA~740mA (8.88W max.) or a total of 1A~2.22A (26.64W max.) at +12V. Connect the fan cables to the fan connectors on the motherboard, making sure that the black wire of each cable matches the ground pin of the connector.

Do not forget to connect the fan cables to the fan connectors. Lack of sufficient air flow within the system may damage the motherboard components. These are not jumpers! DO NOT place jumper caps on the fan connectors!

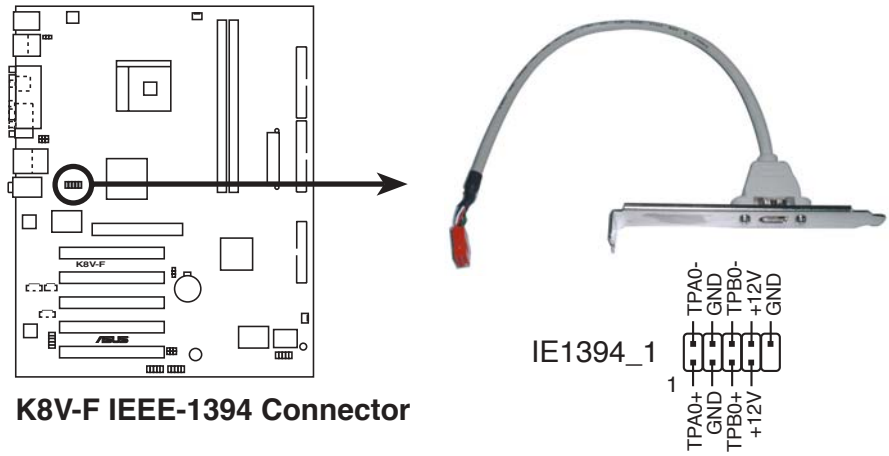


K8V-F 12-Volt Fan Connectors

6. IEEE 1394 connector (10-1 pin IE1394_1)

This orange connector is for the IEEE 1394 module. Attach the 10-1 pin cable plugs to these connectors. You may also connect a 1394-compliant internal hard disk to this connector.

DO NOT connect a USB cable to to the IEEE 1394 connector. Doing so will damage the motherboard!



K8V-F IEEE-1394 Connector

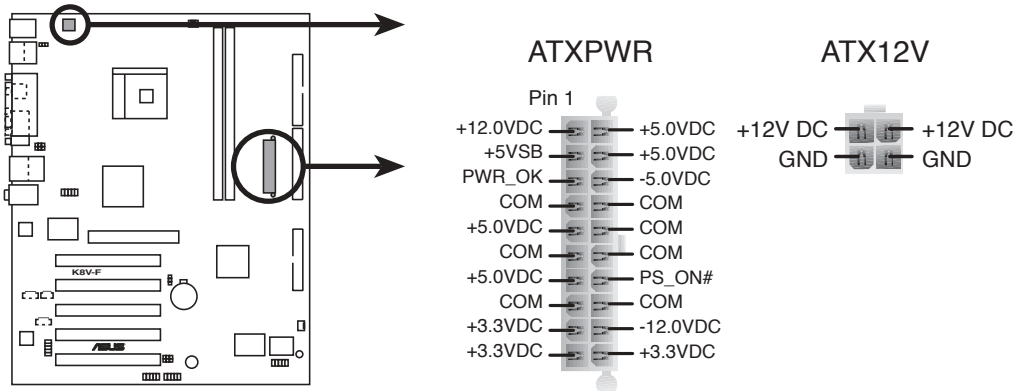
The IEEE 1394 port module is purchased separately.

7. ATX power connectors (20-pin ATXPWR, 4-pin ATX12V)

These connectors connect to an ATX 12V power supply. The plugs from the power supply are designed to fit these connectors in only one orientation. Find the proper orientation and push down firmly until the connectors completely fit.

In addition to the 20-pin ATXPWR connector, this motherboard requires that you connect the 4-pin ATX +12V power plug to provide sufficient power to the CPU.

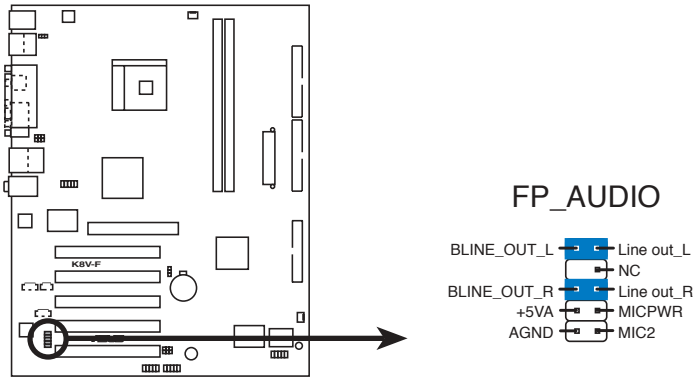
- Do not forget to connect the 4-pin ATX +12V power plug. Otherwise, the system does not boot up.
- Make sure that your ATX 12V power supply can provide 12A on the +12V lead and at least 1A on the +5-volt standby lead (+5VSB). The minimum recommended wattage is 300W, or 350W for a fully configured system. The system may become unstable or may not boot up if the power is inadequate.



K8V-F ATX Power Connectors

8. Front panel audio connector (10-1 pin FP_AUDIO)

This is an interface for the Intel front panel audio cable that allow convenient connection and control of audio devices.

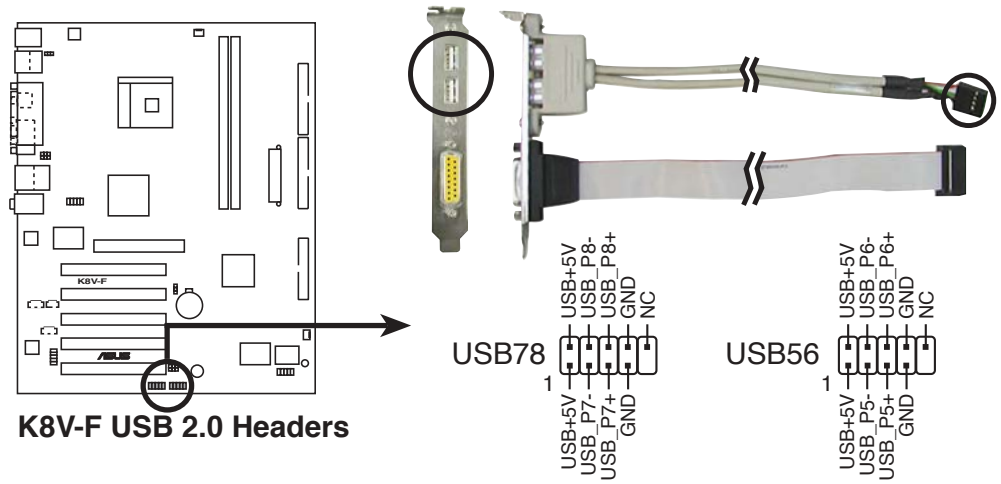


K8V-F Front Panel Audio Connector

9. USB connectors (10-1 pin USB56, USB78)

If the USB ports on the rear panel are inadequate, a USB header is available for additional USB ports. The USB header complies with USB 2.0 specification that supports up to 480 Mbps connection speed. This speed advantage over the conventional 12 Mbps on USB 1.1 allows faster Internet connection, interactive gaming, and simultaneous running of high-speed peripherals.

NEVER connect a **1394 cable** to the USB_56 or USB_78 connector. Doing so will damage the motherboard!

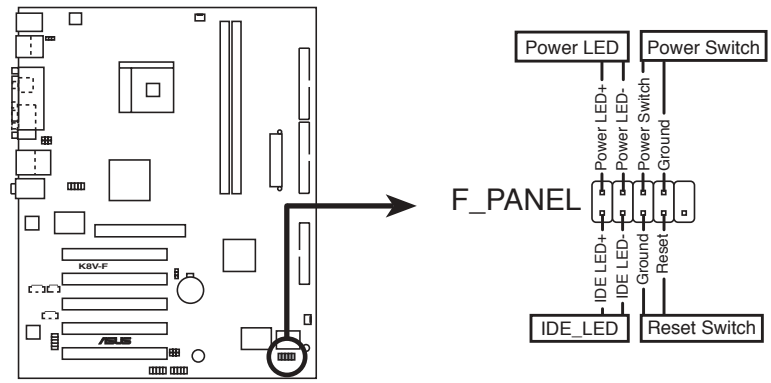


K8V-F USB 2.0 Headers

The USB module is purchased separately.

10. System panel connector (10-1 pin F_PANEL)

This connector accommodates several system front panel functions.



K8V-F F_Panel Connector

- **System Power LED Lead (2- pin PLED)**

  This connector connects to the system power LED. The LED lights up when you turn on the system power, and blinks when the system is in sleep mode.

- **ATX Power Switch / Soft-Off Switch Lead (2-pin PWRSW)**

  This connector connects a switch that controls the system power. Pressing the power switch turns the system between ON and SLEEP, or ON and SOFT OFF, depending on the BIOS or OS settings.

- **Hard Disk Activity Lead (2- pin IDE_LED)**

  This 2-pin connector is for the HDD LED cable. The read or write activities of the device connected to any of the IDE connectors cause the IDE LED to light up.

- **Reset Switch Lead (2-pin RESET)**

  This 2-pin connector connects to the case-mounted reset switch for rebooting the system without turning off the system power.

Chapter 2

This chapter tells how to change system settings through the BIOS Setup menus. Detailed descriptions of the BIOS parameters are also provided.

BIOS information

2.1 Managing and updating your BIOS

The following utilities allow you to manage and update the motherboard Basic Input/Output System (BIOS) setup.

1. **AFUDOS** *(Updates the BIOS in DOS mode using a bootable floppy disk.)*
2. **ASUS EZ Flash** *(Updates the BIOS using a floppy disk during POST.)*
3. **ASUS Update** *(Updates the BIOS in Windows® environment.)*

Refer to the corresponding section for each utility.

Save a copy of the **original motherboard BIOS file** to a **bootable floppy disk** in case you need to restore the BIOS in the future. Copy the original motherboard BIOS using the AFUDOS or the ASUS Update utilities.

2.1.1 Creating a bootable floppy disk

1. Do either one of the following to create a bootable floppy disk.

   DOS environment

   Insert a 1.44 MB floppy disk into the drive. At the DOS prompt, type:

   format A:/S then press <Enter>.

   Windows® XP environment

   a. Insert a 1.44 MB floppy disk into the floppy disk drive.
   b. From your Windows desktop, click on **Start**, then select **My Computer**.
   c. Select the **3 1/2 Floppy Drive** icon.
   d. Click **File** from the menu, then select **Format**. A **Format 3 1/2 Floppy Disk** window appears.
   e. Select **Create an MS-DOS startup disk** from the format options field, then click **Start**.

2. Copy the original (or the latest) motherboard BIOS to the bootable floppy disk.

2.1.2 Using AFUDOS to copy the current BIOS

The AFUDOS.EXE utility can also be used to copy the current system BIOS settings to a floppy or hard disk. The copy can be used as a backup in case the system BIOS fails or gets corrupted.

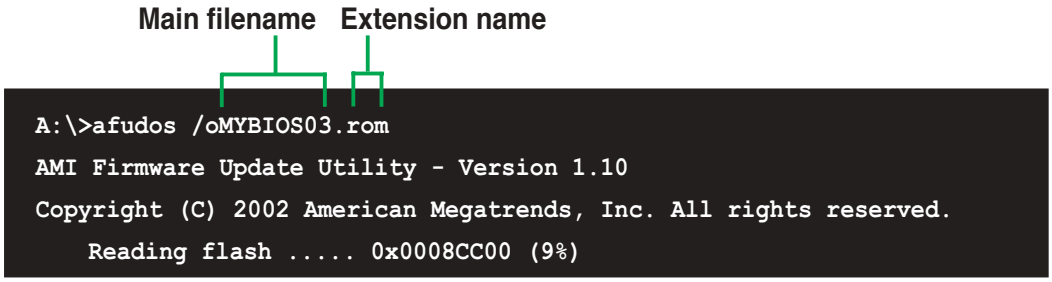
1. At the DOS prompt, type the command line:

   afudos /o***<filename>***

   where "filename" can be any user provided filename of not more than eight (8) alpha-numeric characters for the main filename and three (3) alpha-numeric characters for the extension name.

   Press the **Enter** key.

The BIOS information on the screen is for reference only. What you see on your screen may not be exactly the same as shown.


Main filename
Extension name
A:\>afudos /oMYBIOS03.rom
AMI Firmware Update Utility - Version 1.10
Copyright (C) 2002 American Megatrends, Inc. All rights reserved.
Reading flash 0x0008CC00 (9%)

2. The utility will copy the current system BIOS by default to the floppy disk. Make sure that the floppy disk is not write-protected and have enough space (at least 600KB) to store the file.

```
A:\>afudos /oMYBIOS03.rom
AMI Firmware Update Utility - Version 1.10
Copyright (C) 2002 American Megatrends, Inc. All rights reserved.
    Reading flash ..... done

A:\>
```

   When the BIOS copy process is complete, the utility returns to the DOS prompt.

2.1.3 Using AFUDOS to update the BIOS

The AFUDOS is a DOS-based application that lets you update the BIOS file using a bootable floppy diskette. AFUDOS also allows you to copy the original BIOS file to a floppy diskette.

To update the BIOS using the AFUDOS.EXE:

1. Please download the latest BIOS file from the website provided by the system builder.

Write the BIOS file name on a piece of paper. You need to type the **exact BIOS file name** at the prompt.

2. Copy the AFUDOS.EXE utility from the support CD to the bootable floppy disk that contains the BIOS file.
3. Boot the system from the floppy disk.
4. At the DOS prompt, type the command line:

   afudos /i*<filename.rom>*

   where "filename.rom" means the latest (or original) BIOS file that you copied to the bootable floppy disk.

   The screen displays the status of the update process.

The BIOS information on the screen is for reference only. What you see on your screen may not be exactly the same as shown.

```
A:\>afudos /iK8VF.rom
AMI Firmware Update Utility - Version 1.10
Copyright (C) 2002 American Megatrends, Inc. All rights reserved.
    Reading file ..... done
    Erasing flash .... done
    Writing flash .... 0x0008CC00 (9%)
```

DO NOT shut down or reset the system while updating the BIOS! Doing so may cause system boot failure!

When the BIOS update process is complete, the utility returns to the DOS prompt.

```
A:\>afudos /iK8VF.rom
AMI Firmware Update Utility - Version 1.10
Copyright (C) 2002 American Megatrends, Inc. All rights reserved.
    Reading file ..... done
    Erasing flash .... done
    Writing flash .... 0x0008CC00 (9%)
    Verifying flash .. done

A:\>
```

5. Reboot the system from the hard disk.

2.1.4 Using ASUS EZ Flash to update the BIOS

The ASUS EZ Flash feature allows you to easily update the BIOS without having to go through the long process of booting from a floppy disk and using a DOS-based utility. The EZ Flash is built-in the BIOS LPC chip so it is accessible by simply pressing <Alt> + <F2> during the Power-On Self Tests (POST).

To update the BIOS using ASUS EZ Flash:

1. Visit the system builder website to download the latest BIOS file for your motherboard and rename it to **K8VF.ROM**. Save the BIOS file to a floppy disk.
2. Reboot the system.
3. To launch EZ Flash, press <Alt> + <F2> during POST to display the following.

```
User recovery requested. Starting BIOS recovery...

Checking for floppy...
```

- If there is no floppy disk found in the drive, the error message "**Floppy not found!**" appears.
- If the correct BIOS file is not found in the floppy disk, the error message "**K8VF.ROM not found!**"

4. Insert the floppy disk that contains the BIOS file. If the **K8VF.ROM** file is found in the floppy disk, EZ Flash performs the BIOS update process and automatically reboots the system when done.

DO NOT shutdown or reset the system while updating the BIOS! Doing so may cause system boot failure!

```
User recovery requested. Starting BIOS recovery...

Checking for floppy...

Floppy found!

Reading file "k8vf.rom". Completed.

Start flashing...

Flashed successfully. Rebooting.
```

2.1.5 ASUS Update

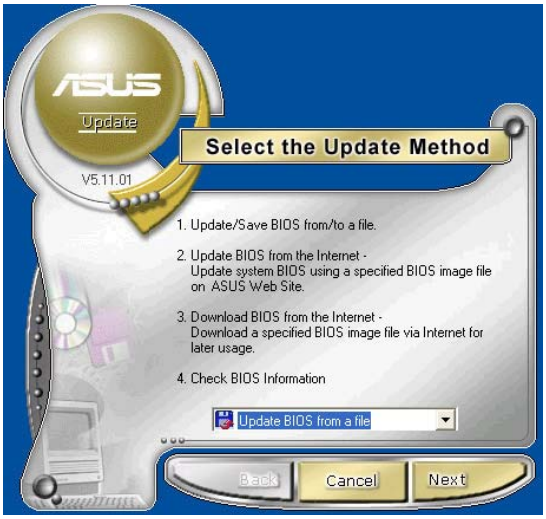
The ASUS Update is a utility that allows you to update the motherboard BIOS in Windows® environment. This utility is available in the support CD that comes with the motherboard package.

To install ASUS Update:

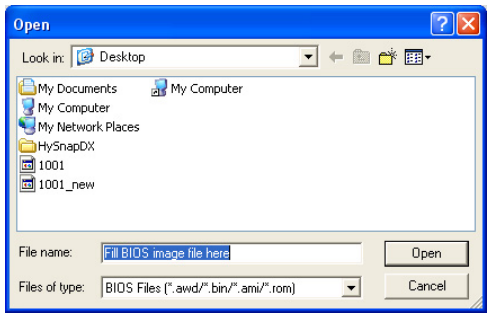
1. Place the support CD in the optical drive. The **Drivers** menu appears.
2. Click the **Utilities** tab, then click **Install ASUS Update VX.XX.XX**. The ASUS Update utility is copied into your system.

To update the BIOS using the ASUS Update:

1. Launch the utility from the Windows desktop by clicking **Start > Programs > ASUS > ASUSUpdate > ASUSUpdate**. The ASUS Update initial screen appears.
2. Select **Update the BIOS from a file**.


ASUS
Update
V5.11.01
Select the Update Method
1. Update/Save BIOS from/to a file.
2. Update BIOS from the Internet -
Update system BIOS using a specified BIOS image file on ASUS Web Site.
3. Download BIOS from the Internet -
Download a specified BIOS image file via Internet for later usage.
4. Check BIOS Information
Update BIOS from a file
Back
Cancel
Next

3. If you selected the option to update the BIOS from a file, a window appears prompting you to locate the file. Select the file, click **Save**, then follow the screen instructions to complete the update process.



2.2 BIOS Setup program

The BIOS software is constantly being updated so the following BIOS setup screens and descriptions are for reference purposes only, and may not exactly match what you see on your screen.

This motherboard supports a programmable Low Pin Count (LPC) chip that you can update using the provided utility described in section "2.1 Managing and updating your BIOS."

Use the BIOS Setup program when you are installing a motherboard, reconfiguring your system, or prompted to "Run Setup". This section explains how to configure your system using this utility.

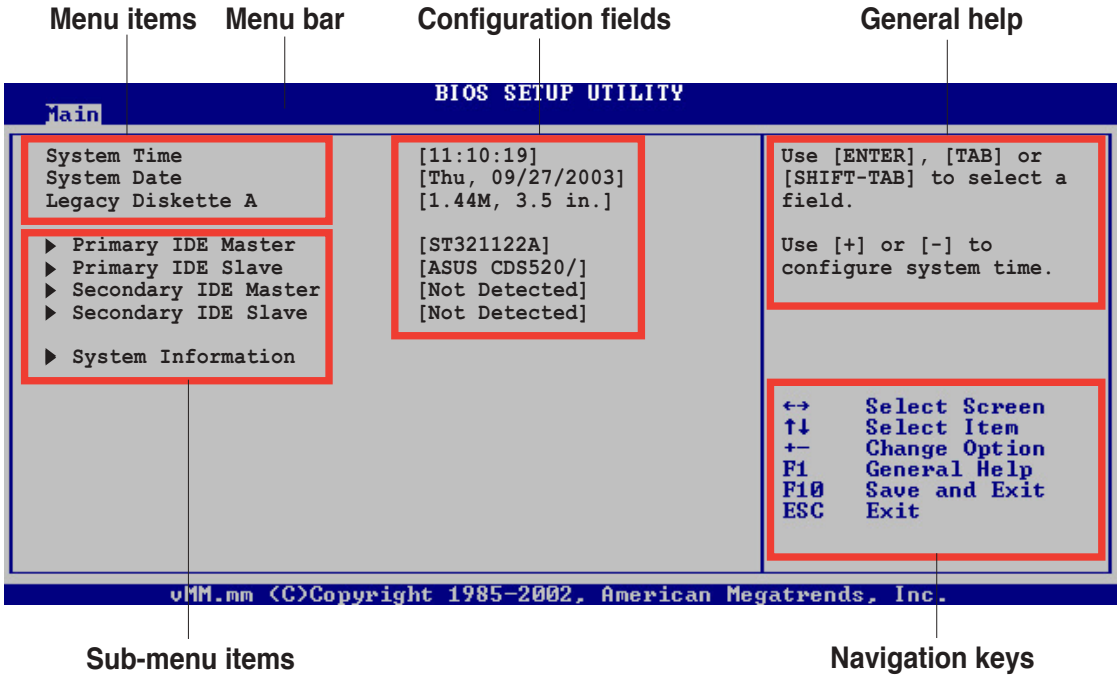
Even if you are not prompted to use the Setup program, you may want to change the configuration of your computer in the future. For example, you may want to enable the security password feature or make changes to the power management settings. This requires you to reconfigure your system using the BIOS Setup program so that the computer can recognize these changes and record them in the CMOS RAM of the LPC chip.

The LPC chip on the motherboard stores the Setup utility. When you start up the computer, the system provides you with the opportunity to run this program. Press <Delete> during the Power-On Self Test (POST) to enter the Setup utility, otherwise, POST continues with its test routines.

If you wish to enter Setup after POST, restart the system by pressing <Ctrl> + <Alt> + <Delete>, or by pressing the reset button on the system chassis. You can also restart by turning the system off and then back on. Do this last option only if the first two failed.

The Setup program is designed to make it as easy to use as possible. It is a menu-driven program, which means you can scroll through the various sub-menus and make your selections among the predetermined choices.

2.2.1 BIOS menu screen



2.2.2 Menu bar

The menu bar on top of the screen has the following main items:

Main	For changing the basic system configuration
Advanced	For changing the advanced system settings
Power	For changing the advanced power management (APM) configuration
Boot	For changing the system boot configuration
Exit	For selecting the exit options and loading default settings

To select an item on the menu bar, press the right or left arrow key on the keyboard until the desired item is highlighted.

2.2.3 Navigation keys

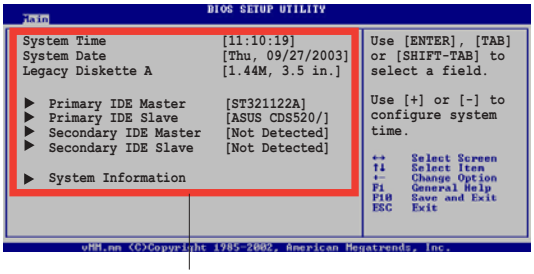
At the **bottom right corner** of a menu screen are the navigation keys for that particular menu. Use the navigation keys to select items in the menu and change the settings.

Some of the navigation keys differ from one screen to another.

2.2.4 Menu items

The highlighted item on the menu bar displays the specific items for that menu. For example, selecting **Main** shows the Main menu items.

The other items (Advanced, Power, Boot, and Exit) on the menu bar have their respective menu items.



2.2.5 Sub-menu items

An item with a sub-menu on any menu screen is distinguished by a solid triangle before the item. To display the sub-menu, select the item, then press Enter.

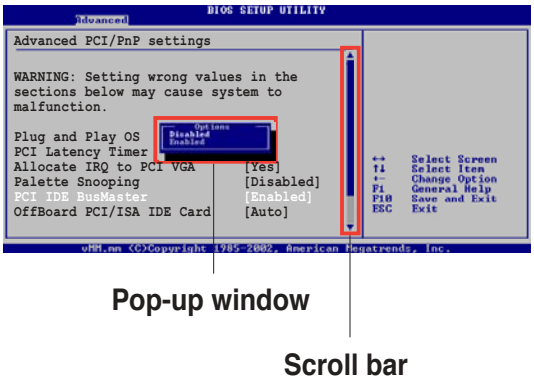
2.2.6 Configuration fields

These fields show the values for the menu items. If an item is user- configurable, you may change the value of the field opposite the item. You can not select an item that is not user-configurable.

A configurable field is enclosed in brackets, and is highlighted when selected. To change the value of a field, select it then press Enter to display a list of options. Refer to "2.2.7 Pop-up window."

2.2.7 Pop-up window

Select a menu item then press Enter to display a pop-up window with the configuration options for that item.



2.2.8 Scroll bar

A scroll bar appears on the right side of a menu screen when there are items that do not fit on the screen. Press **Up/Down arrow keys** or **PageUp/PageDown keys** to display the other items on the screen.

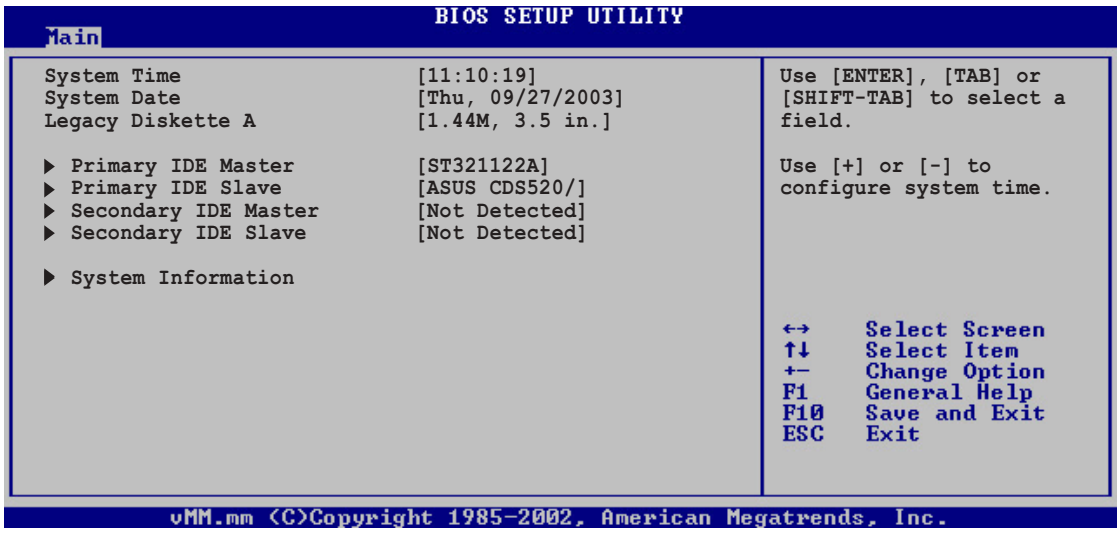
2.2.9 General help

At the top right corner of the menu screen is a brief description of the selected item.

2.3 Main menu

When you enter the BIOS Setup program, the Main menu screen appears giving you an overview of the basic system information.

Refer to section "2.2.1 BIOS menu screen" for information on the menu screen items and how to navigate through them.


BIOS SETUP UTILITY
Main
System Time [11:10:19]
System Date [Thu, 09/27/2003]
Legacy Diskette A [1.44M, 3.5 in.]
Primary IDE Master [ST321122A]
Primary IDE Slave [ASUS CDS520/]
Secondary IDE Master [Not Detected]
Secondary IDE Slave [Not Detected]
System Information
Use [ENTER], [TAB] or [SHIFT-TAB] to select a field.
Use [+] or [-] to configure system time.
↔ Select Screen
↑↓ Select Item
+- Change Option
F1 General Help
F10 Save and Exit
ESC Exit
vMM.mm (C)Copyright 1985-2002, American Megatrends, Inc.

2.3.1 System Time [xx:xx:xxxx]

Allows you to set the system time

2.3.2 System Date [Day xx/xx/xxxx]

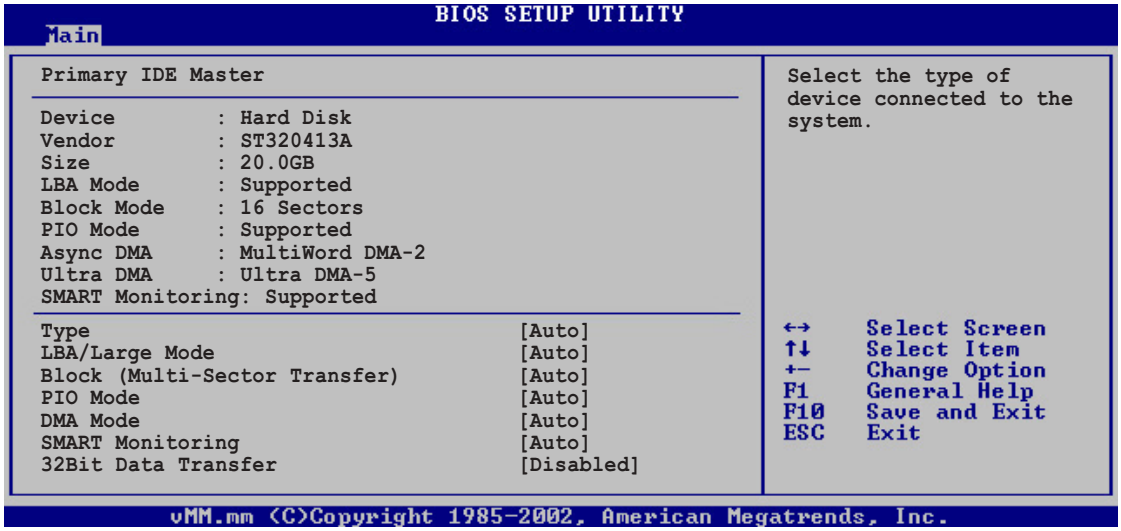
Allows you to set the system date

2.3.3 Legacy Diskette A [1.44M, 3.5 in.]

Sets the type of floppy drive installed. Configuration options: [Disabled] [360K, 5.25 in.] [1.2M , 5.25 in.] [720K , 3.5 in.] [1.44M, 3.5 in.] [2.88M, 3.5□in.]

2.3.4 Primary/Secondary IDE Master/Slave

While entering Setup, BIOS auto-detects the presence of IDE devices. There is a separate sub-menu for each IDE device. Select a device item then press Enter to display the IDE device information.



The values opposite the dimmed items (Device, Vendor, Size, LBA Mode, Block Mode, PIO Mode, Async DMA, Ultra DMA, and SMART monitoring) are auto-detected by BIOS and are not user-configurable. These items show N/A if no IDE device is installed in the system.

Type [Auto]

Selects the type of IDE drive. Configuration options: [Auto] [Not Installed] [CDROM] [ARMD]

LBA/Large Mode [Auto]

Enables or disables the LBA mode. Setting to Auto enables the LBA mode if the device supports this mode, and if the device was not previously formatted with LBA mode disabled. Configuration options: [Auto] [Disabled]

Block (Multi-Sector Transfer) [Auto]

Enables or disables data multi-sectors transfers. When set to Auto, the data transfer from and to the device occurs multiple sectors at a time if the device supports multi-sector transfer feature. When set to Disabled, the data transfer from and to the device occurs one sector at a time. Configuration options: [Auto] [Disabled]

PIO Mode [Auto]

Selects the PIO mode. Configuration options: [Auto] [0] [1] [2] [3] [4]

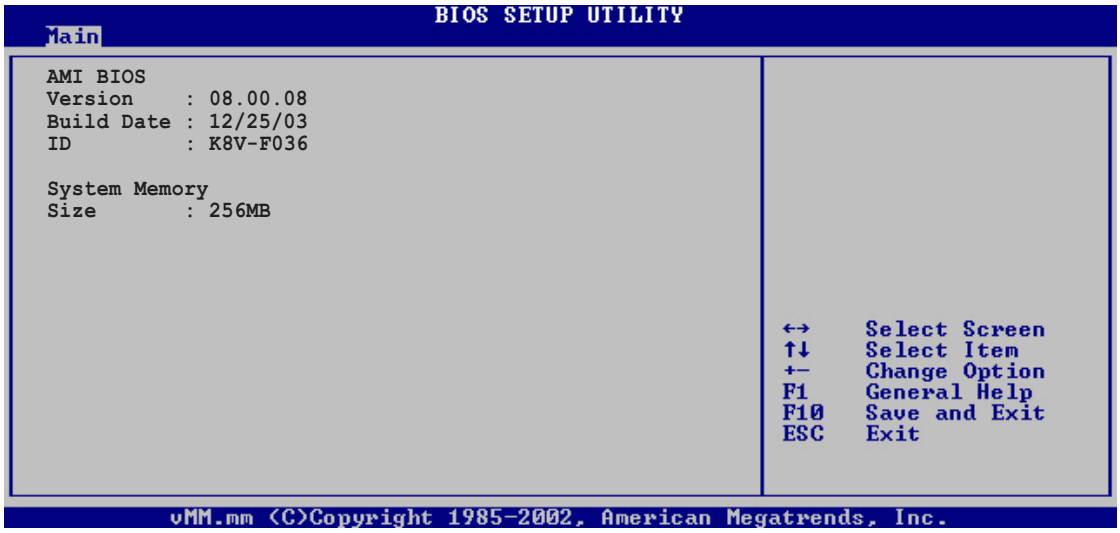
DMA Mode [Auto]
Selects the DMA mode. Configuration options: [Auto] [SWDMA0] [SWDMA1] [SWDMA2] [MWDMA0] [MWDMA1] [MWDMA2] [UDMA0] [UDMA1] [UDMA2] [UDMA3] [UDMA4] [UDMA5] [UDMA6]

SMART Monitoring [Auto]
Sets the Smart Monitoring, Analysis, and Reporting Technology.
Configuration options: [Auto] [Disabled] [Enabled]

32Bit Data Transfer [Disabled]
Enables or disables 32-bit data transfer.
Configuration options: [Disabled] [Enabled]

2.3.5 System Information

This menu gives you an overview of the general system specifications. The items in this menu are auto-detected by the BIOS.



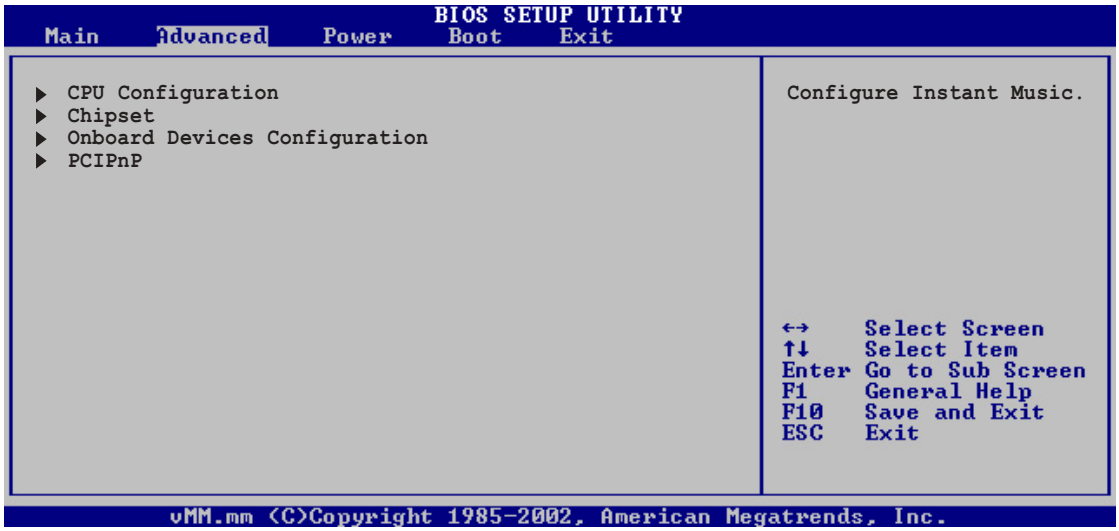
AMI BIOS
Displays the auto-detected BIOS information

System Memory
Displays the auto-detected system memory

2.4 Advanced menu

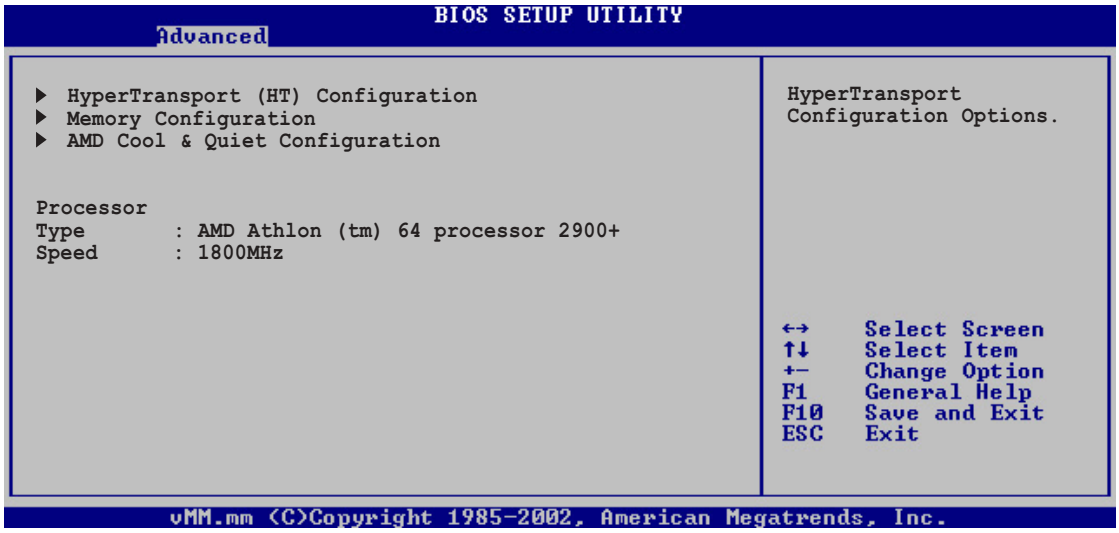
The Advanced menu items allow you to change the settings for the CPU and other system devices.

Take caution when changing the settings of the Advanced menu items. Incorrect field values may cause the system to malfunction.

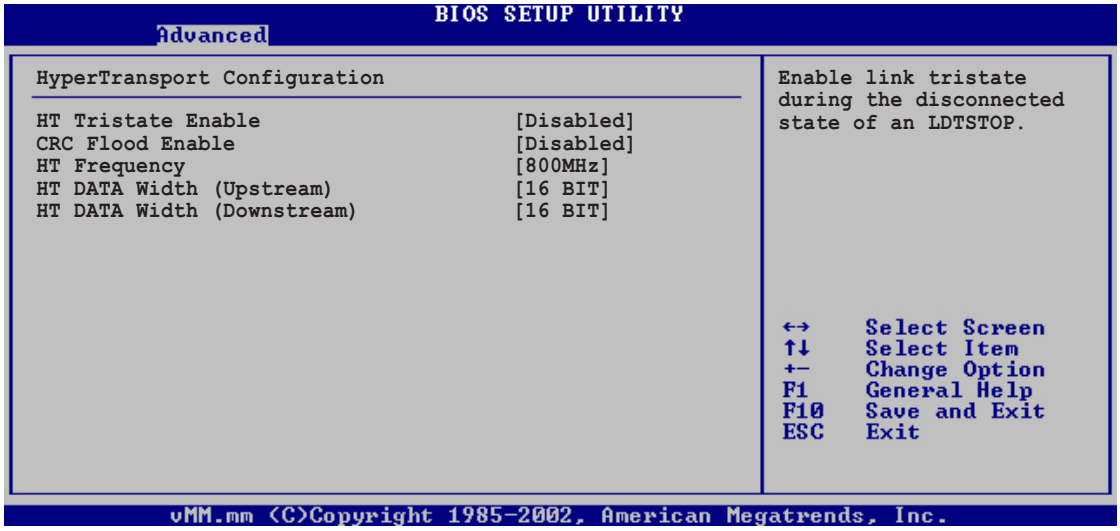


2.4.1 CPU Configuration

The items in this menu show the CPU-related information auto-detected by BIOS.



HyperTransport Configuration



HT Tristate Enable [Disabled]

Enables or disables the HyperTransport Tristate that allows tristate link during the disconnected state of an LDTSTOP
Configuration options: [Disabled] [Enabled]

CRC Flood Enable [Disabled]

Enables or disables the CRC Flood that allows synchronized packet generation on CRC Error. Configuration options: [Disabled] [Enabled]

HT Frequency [800 MHz]

Allows you to select the frequency of HyperTransport transfer from K8 CPU to AGP. Configuration options: [200 MHz] [400 Mhz] [600 Mhz] [800 Mhz]

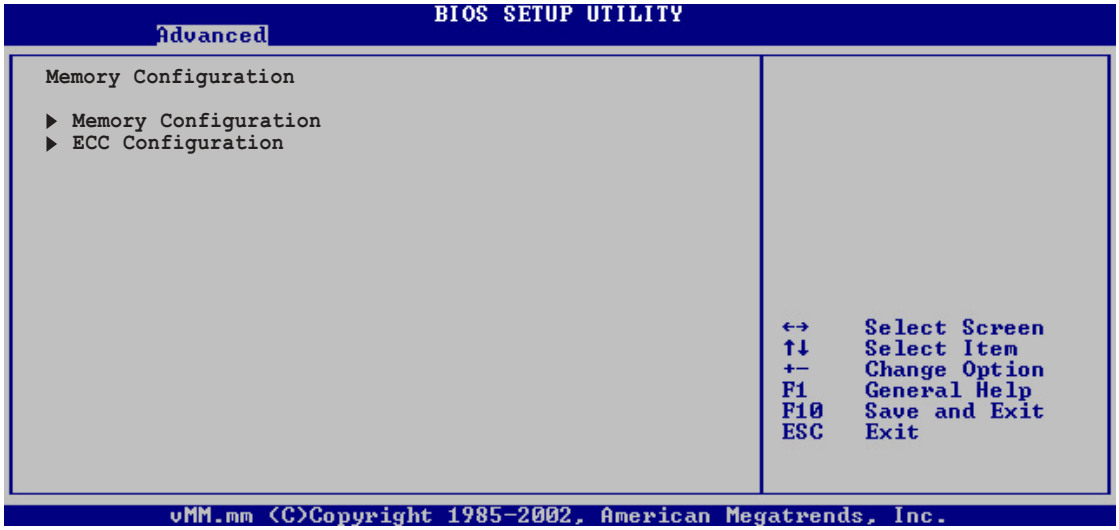
Allows selection of the HyperTransport upstream data width
Configuration options: [16 BIT] [8 BIT]

HT DATA Width (Downstream) [16 BIT]

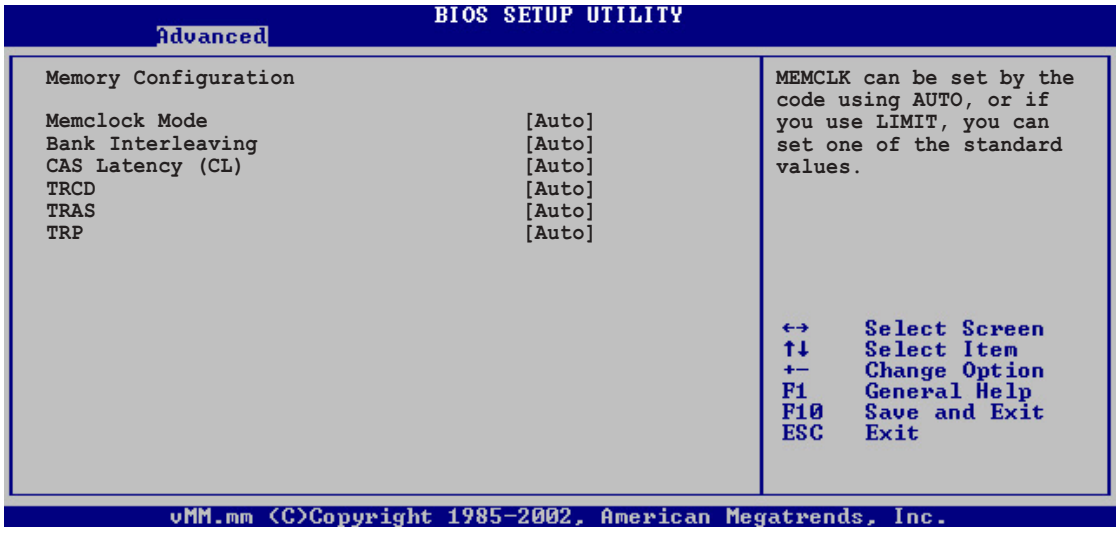
Allows selection of the HyperTransport downstream data width
Configuration options: [16 BIT] [8 BIT]

Memory Configuration

The Memory Configuration menu allows you to change the system memory settings. The dimmed items (Memory CLK, CAS Latency, TRCD, TRAS, TRP) are auto-detected by the BIOS.



Memory Configuration


BIOS SETUP UTILITY
Advanced
Memory Configuration
Memclock Mode [Auto]
Bank Interleaving [Auto]
CAS Latency (CL) [Auto]
TRCD [Auto]
TRAS [Auto]
TRP [Auto]
MEMCLK can be set by the code using AUTO, or if you use LIMIT, you can set one of the standard values.
↔ Select Screen
↑↓ Select Item
+- Change Option
F1 General Help
F10 Save and Exit
ESC Exit
vMM.mm (C)Copyright 1985-2002, American Megatrends, Inc.

Memclock Mode [Auto]

Allows you to set the memory clock mode. Set by the code using [Auto] or select [Manual] to set using one of the standard values.
Configuration options: [Auto] [Limit]

Bank Interleaving [Auto]

Sets whether to allow memory accesses to be spread out over BANKS on the same node or across nodes, decreasing access contention.
Configuration options: [Auto] [Disabled]

CAS Latency (CL) [Auto]

Sets the CAS Latency. Configuration options: [Auto] [2.0] [3.0] [2.5]

TRCD [Auto]

Sets the TRCD. Configuration options: [Auto] [2 CLK] [3 CLK] [4 CLK] [5 CLK] [6 CLK]

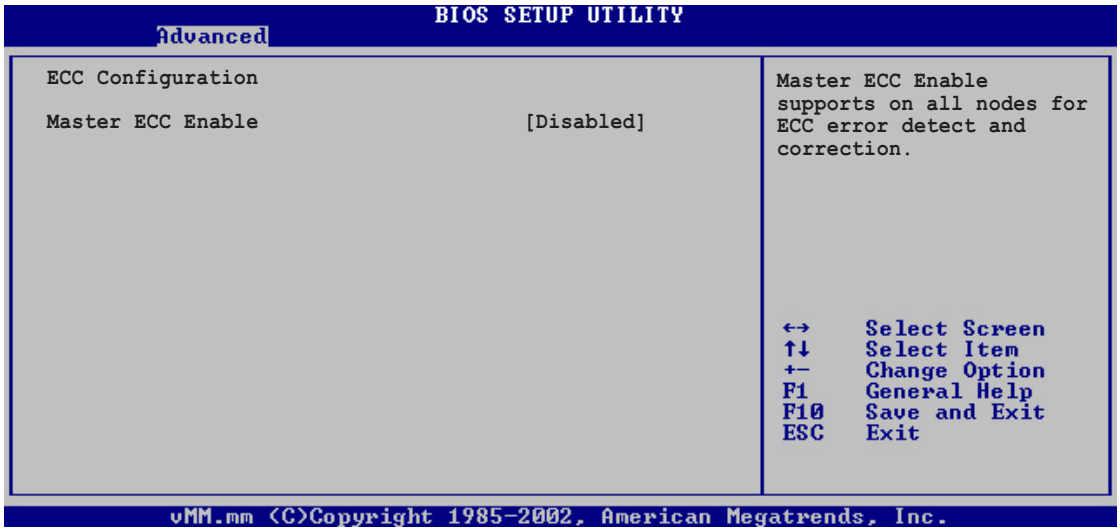
TRAS [Auto]

Sets the TRAS. Configuration options: [Auto] [5 CLK] [6 CLK] [7 CLK] [8 CLK] [9 CLK] [10 CLK] [11 CLK] [12 CLK] [13 CLK] [14 CLK] [15 CLK]

TRP [Auto]

Sets the TRP. Configuration options: [Auto] [2 CLK] [3 CLK] [4 CLK] [5 CLK] [6 CLK]

ECC Configuration



Master ECC Enable [Disabled]

Enables or disables support on all nodes for ECC error detect and correction
Configuration options: [Disabled] [Enabled]

The following items appear only when the **Master ECC Enable** item is enabled.

DRAM ECC Enable [Disabled]

Enables or disables the DRAM ECC that allows hardware to automatically report and correct memory errors and maintain system integrity
Configuration options: [Disabled] [Enabled]

L2 Cache BG Scrub [Disabled]

Sets automatic correction of L2 data cache RAM when idle. Configuration options: [Disabled] [40ns] [80ns] [160ns] [320ns] [640ns] [1.28us] [2.56us] [5.12us] [10.2us] [20.5us] [41.0us] [81.9us] [163.8us] [327.7us] [655.4us] [1.31ms] [2.62ms] [5.24ms] [10.49ms] [20.97ms] [42.00ms] [84.00ms]

Data Cache BG Scrub [Disabled]

Sets automatic correction of L1 data cache RAM when idle. Configuration options: [Disabled] [40ns] [80ns] [160ns] [320ns] [640ns] [1.28us] [2.56us] [5.12us] [10.2us] [20.5us] [41.0us] [81.9us] [163.8us] [327.7us] [655.4us] [1.31ms] [2.62ms] [5.24ms] [10.49ms] [20.97ms] [42.00ms] [84.00ms]

The following items appear only when the **DRAM ECC Enable** item is set to [Enabled].

DRAM BG Scrub [640ns]

Disables or sets the DRAM scrubbing function that corrects and rewrites memory errors for later reads. DRAM scrubbing when memory is idle improves system performance. Configuration options: [Disabled] [40ns] [80ns] [160ns] [320ns] [640ns] [1.28us] [2.56us] [5.12us] [10.2us] [20.5us] [41.0us] [81.9us] [163.8us] [327.7us] [655.4us] [1.31ms] [2.62ms] [5.24ms] [10.49ms] [20.97ms] [42.00ms] [84.00ms]

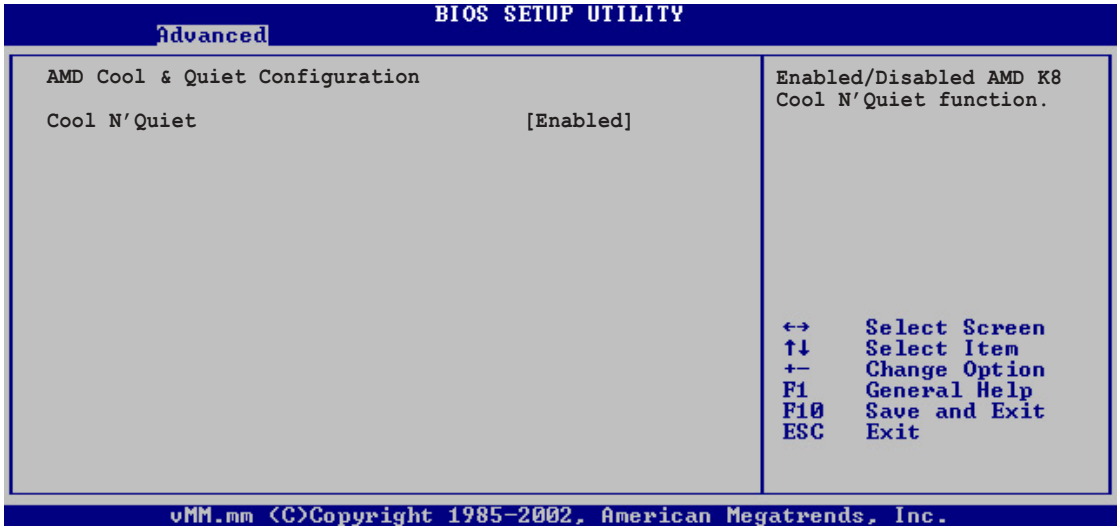
DRAM SCRUB REDIRECT [Disabled]

Sets the system to immediately correct DRAM ECC errors, even if background scrubbing is on. Configuration options: [Disabled] [Enabled]

ECC Chip Kill [Disabled]

Enables or disables the ECC chip kill feature
Configuration options: [Disabled] [Enabled]

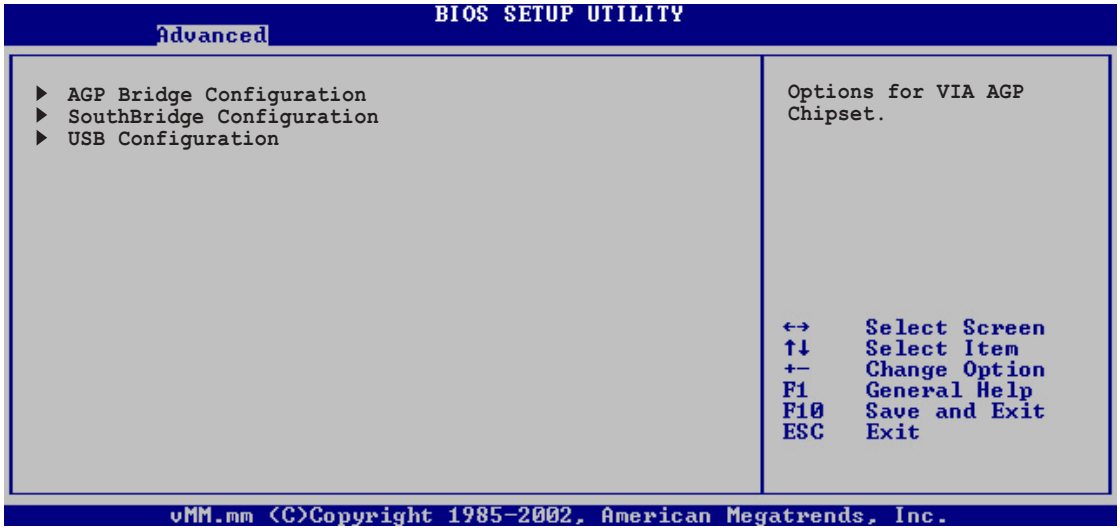
AMD Cool & Quiet Configuration



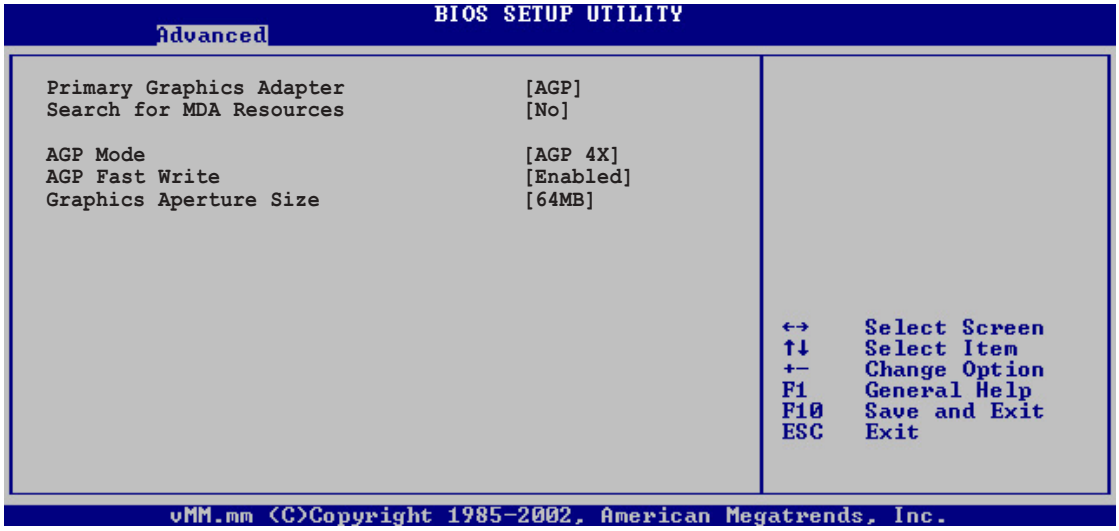
Cool N' Quiet™ [Enabled]
Allows you to enable or disable the AMD K8 cool and quiet function
Configuration options: [Enabled] [Disabled]

2.4.2 Chipset

The Chipset menu allows you to change the advanced chipset settings. Select an item then press <Enter> to display the sub-menu.



AGP Bridge Configuration



Primary Graphics Adapter [AGP]

Switches the PCI Bus scanning order while searching for a video card. This allows you to select the type of Primary VGA in case of multiple video controllers. Configuration options: [AGP] [PCI]

Search for MDA Resources [No]

Sets whether to allow search for MDA resources
Configuration options: [No] [Yes]

AGP Mode [AGP 4X]

This motherboard supports the AGP 8X interface that transfers video data at 2.12GB/s. AGP 8X is backward-compatible, so you may keep the default [AGP 4X] mode even if you are using an AGP 8X video card. When set to [AGP 4X] mode, the AGP interface only provides a peak data throughput of 1.06GB/s even if you are using an AGP 8X video card. Configuration options: [AGP 8X] [AGP 4X] [AGP 2X] [AGP 1X]

The [AGP 8X] option appears only when you installed an AGP 8X graphics card.

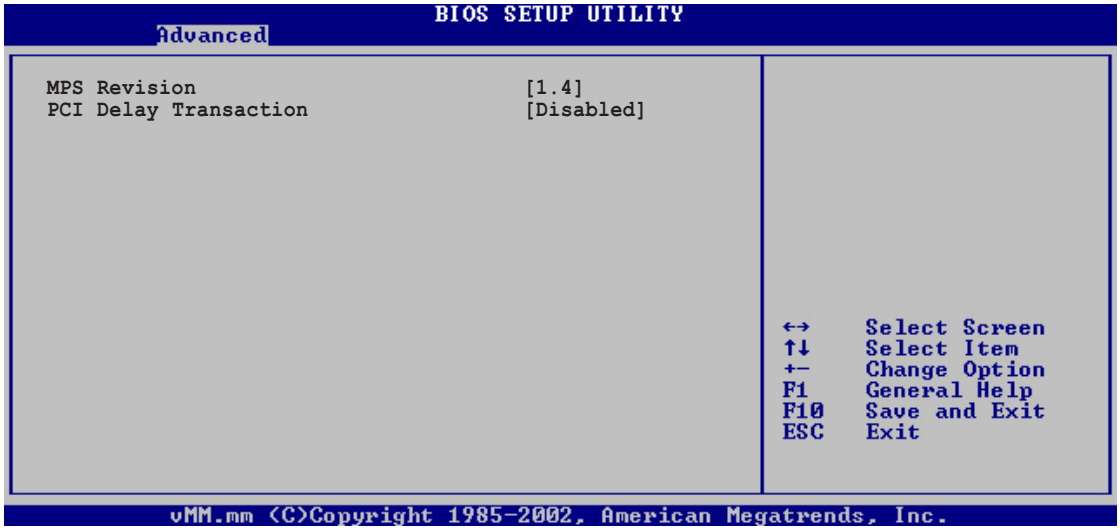
AGP Fast Write [Enabled]

Enables or disables the AGP Fast Write feature
Configuration options: [Enabled] [Disabled]

Graphics Aperture Size [64MB]

Allows you to select the size of mapped memory for AGP graphic data
Configuration options: [256MB] [128MB] [64MB] [32MB]

SouthBridge Configuration



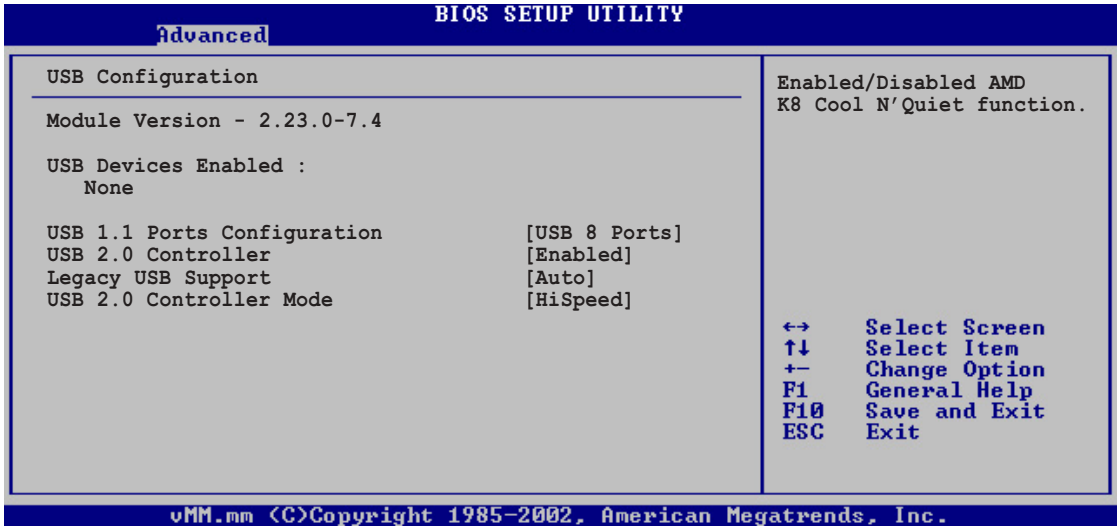
MPS Revision [1.4]

Sets the MPS revision value. Configuration options: [1.1] [1.4]

PCI Delay Transaction [Disabled]

Enables or disables the PCI Delay transaction feature
Configuration options: [Disabled] [Enabled]

USB Configuration



The Module Version and USB Devices Enabled items show the auto-detected values. If no USB device is detected, the item shows None.

USB 1.1 Ports Configuration [USB 8 Ports]

Allows you to set the number of USB ports to activate
Configuration options: [Disabled] [USB 2 Ports] [USB 4 Ports] [USB 6 Ports] [USB 8 Ports]

USB 2.0 Controller [Enabled]

Allows you to enable or disable the USB 2.0 controller
Configuration options: [Enabled] [Disabled]

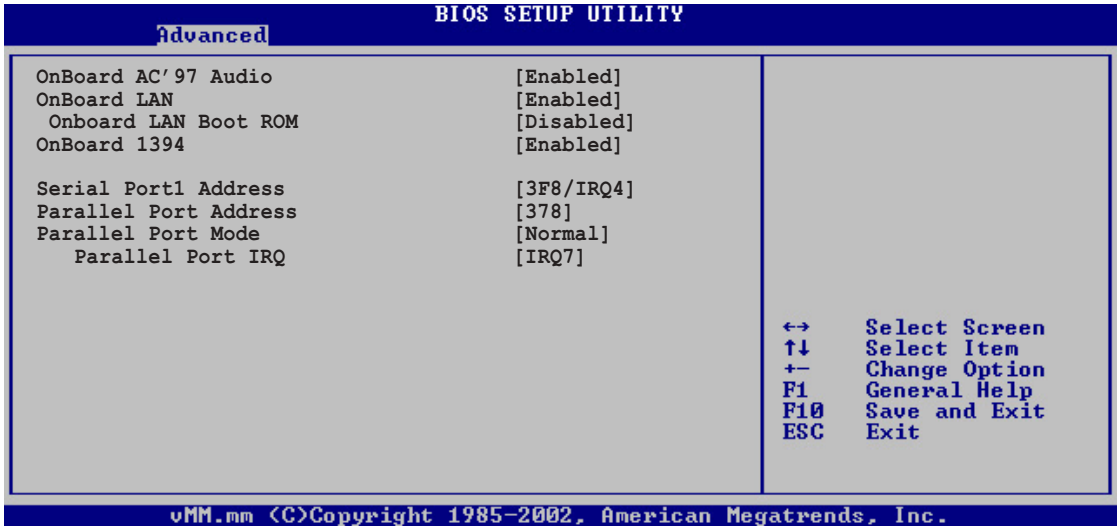
Legacy USB Support [Auto]

Allows you to enable or disable support for legacy USB devices. Setting to Auto allows the system to detect the presence of USB devices at startup. If detected, the USB controller legacy mode is enabled. If no USB device is detected, the legacy USB support is disabled. Configuration options: [Auto] [Disabled] [Enabled]

USB 2.0 Controller Mode [HiSpeed]

Allows you to configure the USB 2.0 controller to HiSpeed (480Mbps) or FullSpeed (12Mbps). Configuration options: [HiSpeed] [FullSpeed]

2.4.3 Onboard Devices Configuration



OnBoard AC'97 Audio [Enabled]

Selecting [Enabled] allows the BIOS to detect whether you are using any audio device. If an audio device is detected, the onboard audio controller is enabled. If no audio device is detected, the controller is disabled.
Configuration options: [Enabled] [Disabled]

OnBoard LAN [Enabled]

Allows you to enable or disable the onboard LAN controller
Configuration options: [Enabled] [Disabled]

OnBoard LAN Boot ROM [Disabled]

Allows you to enable or disable the onboard LAN Boot ROM
Configuration options: [Disabled] [Enabled]

OnBoard 1394 [Enabled]

Allows you to enable or disable the onboard IEEE 1394 controller
Configuration options: [Disabled] [Enabled]

Serial Port1 Address [3F8/IRQ4]

Allows you to select the Serial Port1 base address
Configuration options: [Disabled] [3F8/IRQ4] [3E8/IRQ4] [2E8/IRQ3]

Parallel Port Address [378]

Allows you to select the Parallel port base addresses
Configuration options: [Disabled] [378] [278] [3BC]

Parallel Port Mode [Normal]

Allows you to select the Parallel port mode
Configuration options: [Normal] [Bi-Directional] [EPP] [ECP]

EPP Version [1.9]

Appears only when the Parallel Port Mode is set to [EPP]. It allows you to to select the Parallel Port EPP version.
Configuration options: [1.9] [1.7]

ECP Mode DMA Channel [DMA3]

Appears only when the Parallel Port Mode is set to [ECP]. It allows you to set the Parallel Port ECP DMA. Configuration options: [DMA0] [DMA1] [DMA3]

Parallel Port IRQ [IRQ7]

Allows you to select the Parallel Port IRQ. Configuration options: [IRQ5] [IRQ7]

2.4.4 PCIPnP

The PCIPnP menu items allow you to change the advanced settings for PCI/PnP devices. The menu includes setting IRQ and DMA channel resources for either PCI/PnP or legacy ISA devices.

Take caution when changing the settings of the PCIPnP menu items. Incorrect field values may cause the system to malfunction.

BIOS SETUP UTILITY
Advanced
Advanced PCI/PnP settings
WARNING: Setting wrong values in the sections below may cause system to malfunction.
Plug And Play OS [Yes]
PCI Latency Timer [64]
Allocate IRQ to PCI VGA [Yes]
Palette Snooping [Disabled]
IRQ3 [Available]
IRQ4 [Available]
IRQ5 [Available]
IRQ7 [Available]
IRQ9 [Available]
IRQ10 [Available]
IRQ11 [Available]
IRQ14 [Available]
IRQ15 [Available]
NO: Lets the BIOS configure all the devices in the system. YES: Lets the operating system configure Plug and Play (PnP) devices not required for boot if your system has a Plug and Play operating system.
↔ Select Screen
↑↓ Select Item
+- Change Option
F1 General Help
F10 Save and Exit
ESC Exit
vMM.mm (C)Copyright 1985-2002, American Megatrends, Inc.

Plug And Play O/S [Yes]

When set to [No], BIOS configures all the devices in the system. When set to [Yes] and if you installed a Plug & Play operating system, the operating system configures the Plug & Play devices not required for boot.
Configuration options: [Yes] [No]

PCI Latency Timer [64]

Allows you to select the value in units of PCI clocks for the PCI device latency timer register. Configuration options: [32] [64] [96] [128] [160] [192] [224] [248]

Allocate IRQ to PCI VGA [Yes]

When set to [Yes], BIOS assigns an IRQ to PCI VGA card if the card requests for an IRQ. When set to [No], BIOS does not assign an IRQ to the PCI VGA card even if requested. Configuration options: [No] [Yes]

Palette Snooping [Disabled]

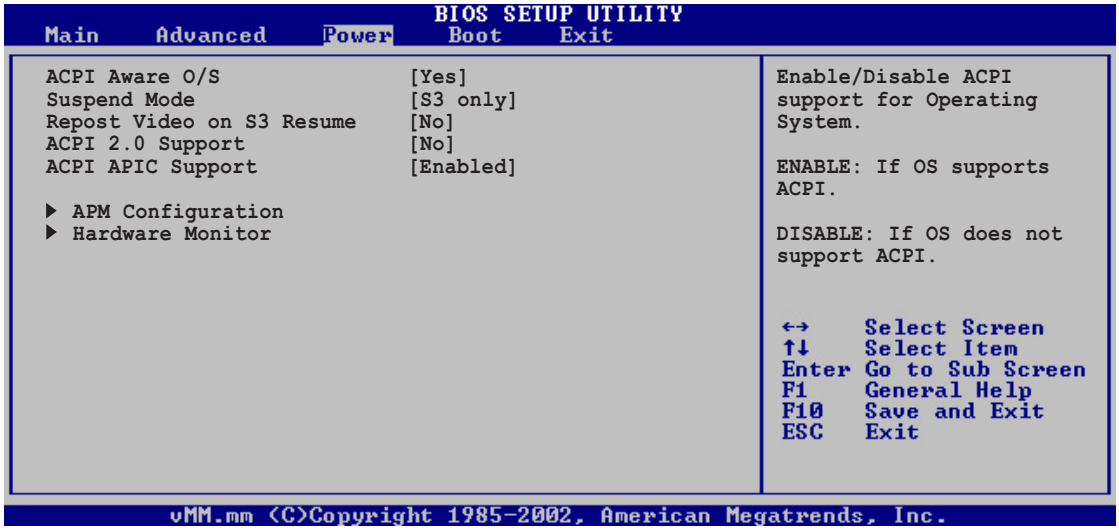
When set to [Enabled], the palette snooping feature informs the PCI devices that an ISA graphics device is installed in the system so that the latter can function correctly. Setting to [Disabled] deactivates this feature
Configuration options: [Disabled] [Enabled]

IRQ xx [Available]

When set to [Available], the specific IRQ is free for use of PCI/PnP devices. When set to [Reserved], the IRQ is reserved for legacy ISA devices.
Configuration options: [Available] [Reserved]

2.5 Power menu

The Power menu items allow you to change the power settings. Select an item then press Enter to display the configuration options.


BIOS SETUP UTILITY
Main Advanced Power Boot Exit
ACPI Aware O/S [Yes]
Suspend Mode [S3 only]
Repost Video on S3 Resume [No]
ACPI 2.0 Support [No]
ACPI APIC Support [Enabled]
APM Configuration
Hardware Monitor
Enable/Disable ACPI support for Operating System.
ENABLE: If OS supports ACPI.
DISABLE: If OS does not support ACPI.
↔ Select Screen
↑↓ Select Item
Enter Go to Sub Screen
F1 General Help
F10 Save and Exit
ESC Exit
vMM.mm (C)Copyright 1985-2002, American Megatrends, Inc.

2.5.1 ACPI Aware O/S [Yes]

Allows you to enable or disable ACPI support for operating system
Configuration options: [Yes] [No]

2.5.2 Suspend Mode [S3 only]

Allows you to select the ACPI state to be used for system suspend
Configuration options: [S1 (POS) only] [S3 only] [S1 (POS) & S3 (STR) Auto]

2.5.3 Repost Video S3 Resume [No]

Allows you to determine whether to invoke VGA BIOS POST on S3/STR resume
Configuration options: [No] [Yes]

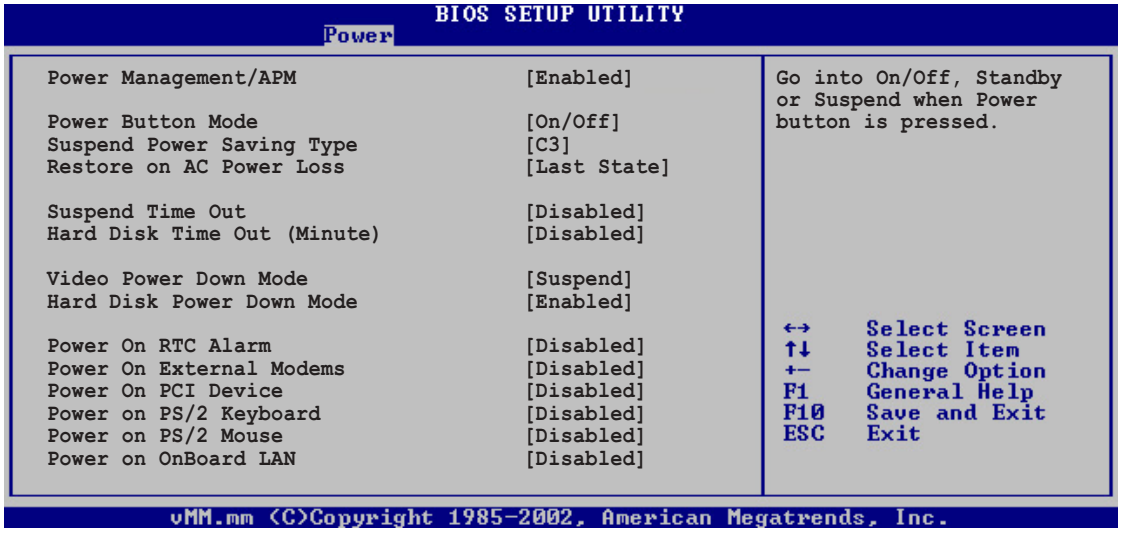
2.5.4 ACPI 2.0 Support [No]

Allows you to add more tables for ACPI 2.0 specifications
Configuration options: [No] [Yes]

2.5.5 ACPI APIC Support [Enabled]

Allows you to enable or disable the ACPI support in the APIC. When set to Enabled, the ACPI APIC table pointer is included in the RSDT pointer list.
Configuration options: [Enabled] [Disabled]

2.5.6 APM Configuration


BIOS SETUP UTILITY
Power
Power Management/APM [Enabled]
Power Button Mode [On/Off]
Suspend Power Saving Type [C3]
Restore on AC Power Loss [Last State]
Suspend Time Out [Disabled]
Hard Disk Time Out (Minute) [Disabled]
Video Power Down Mode [Suspend]
Hard Disk Power Down Mode [Enabled]
Power On RTC Alarm [Disabled]
Power On External Modems [Disabled]
Power On PCI Device [Disabled]
Power on PS/2 Keyboard [Disabled]
Power on PS/2 Mouse [Disabled]
Power on OnBoard LAN [Disabled]
Go into On/Off, Standby or Suspend when Power button is pressed.
↔ Select Screen
↑↓ Select Item
+- Change Option
F1 General Help
F10 Save and Exit
ESC Exit
vMM.mm (C)Copyright 1985-2002, American Megatrends, Inc.

Power Management/APM [Enabled]

Allows you to enable or disable the Advanced Power Management (APM) feature. Configuration options: [Disabled] [Enabled]

The following items appear only when the Power Management/APM item is set to [Enabled].

Power Button Mode [On/Off]

Allows the system to go into On/Off mode or suspend mode when the power button is pressed. Configuration options: [On/Off] [Standby] [Suspend]

Suspend Power Saving Type [C3]

Allows you to set the suspend power saving type
Configuration options: [C3] [S1]

Restore on AC Power Loss [Last State]

When set to Power Off, the system goes into off state after an AC power loss. When set to Power On, the system goes on after an AC power loss. When set to Last State, the system goes into either off or on state whatever was the system state before the AC power loss. Configuration options: [Last State] [Power Off] [Power On]

Suspend Time Out [Disabled]

Allows you to select the specified time at which the system goes on suspend mode. Configuration options: [Disabled] [1 Min] [2 Min] [4 Min] [8 Min] [10 Min] [20 Min] [30 Min] [40 Min] [50 Min] [60 Min]

Hard Disk Time Out (Minute) [Disabled]

Allows you to select the specified time in minute at which the hard disk goes on standby mode. Configuration options: [Disabled] [1]...[15]

Video Power Down Mode [Suspend]
Allows you to select the video power down mode.
Configuration options: [Suspend] [Disabled] [Standby]

Hard Disk Power Down Mode [Enabled]
Allows you to select the hard disk power down mode.
Configuration options: [Enabled] [Disabled]

Power On By RTC Alarm [Disabled]
Allows you to enable or disable RTC to generate a wake event. When this item is set to Enabled, the items RTC Alarm Date, RTC Alarm Hour, RTC Alarm Minute, and RTC Alarm Second appear with set values. Configuration options: [Disabled] [Enabled]

Power On External Modems [Disabled]
Allows either settings of [Enabled] or [Disabled] for powering up the computer when the external modem receives a call while the computer is in Soft-off mode.
Configuration options: [Disabled] [Enabled]

The computer cannot receive or transmit data until the computer and applications are fully running. Thus, connection cannot be made on the first try. Turning an external modem off and then back on while the computer is off causes an initialization string that turns the system power on.

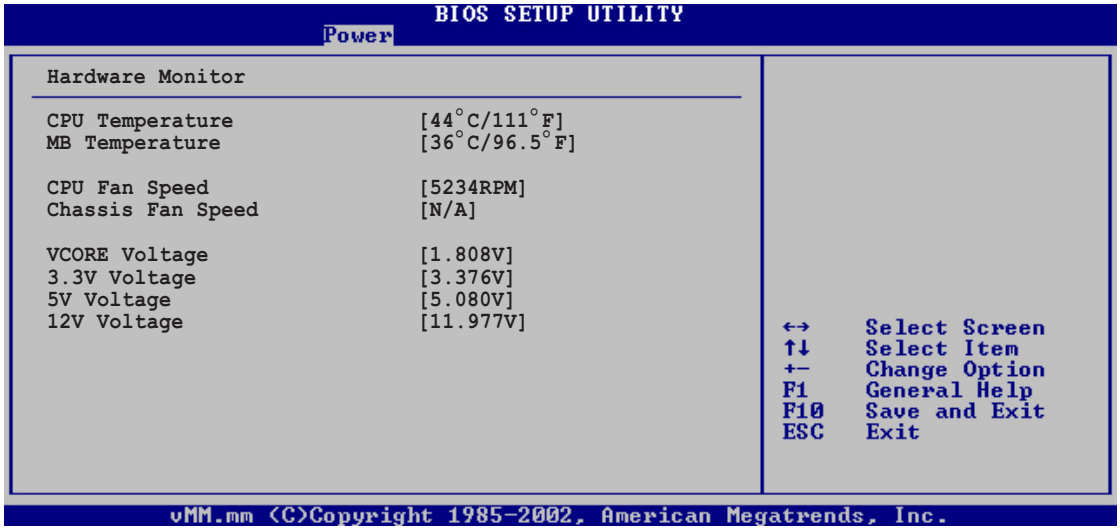
Power On PCI Device [Disabled]
When set to [Enabled], this parameter allows you to turn on the system through a PCI LAN or modem card. This feature requires an ATX power supply that provides at least 1A on the +5VSB lead. Configuration options: [Disabled] [Enabled]

Power On PS/2 KeyBoard [Disabled]
Allows you to use specific keys on the keyboard to turn on the system. When set to [S5], the item Wake-up Key is enabled. This feature requires an ATX power supply that provides at least 1A on the +5VSB lead.
Configuration options: [Disabled] [Enabled]

Power On PS/2 Mouse [Disabled]
When set to [Enabled], this parameter allows you to use the PS/2 mouse to resume the system. This feature requires an ATX power supply that provides at least 1A on the +5VSB lead. Configuration options: [Disabled] [Enabled]

Power On OnBoard LAN [Disabled]
When set to [Enabled], this option allows you to use the onboard LAN to turn on the system. Configuration options: [Disabled] [Enabled]

2.5.7 Hardware Monitor



CPU Temperature [xxx°C/xxx°F]
MB Temperature [xxx°C/xxx°F]

The onboard hardware monitor automatically detects and displays the CPU, and motherboard temperatures.

CPU Fan Speed [xxxxRPM] or [N/A]
Chassis Fan Speed [xxxxRPM] or [N/A]

The onboard hardware monitor automatically detects and displays the CPU, and chassis fan speeds in rotations per minute (RPM). If any of the fans is not connected to the motherboard, the specific field shows N/A.

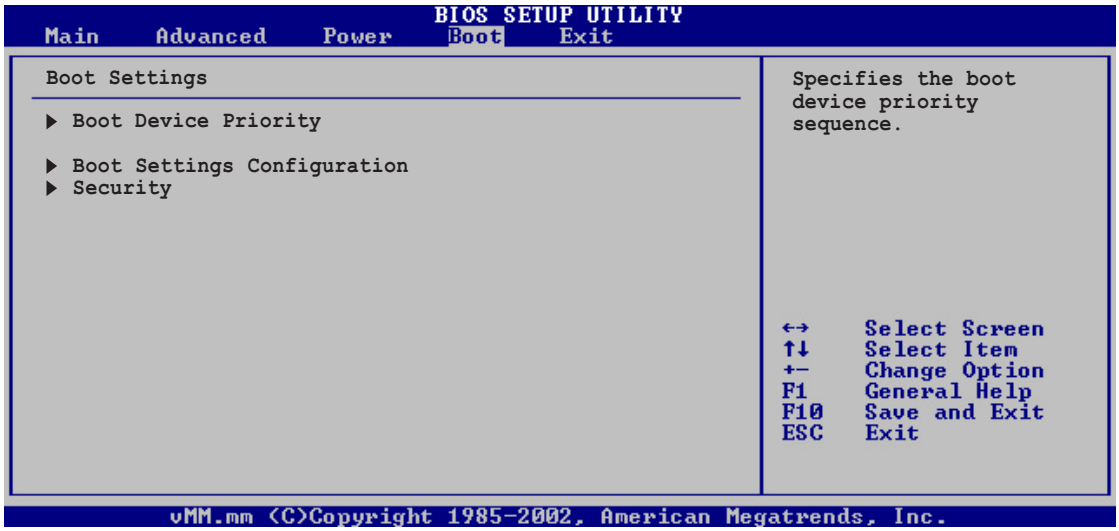
VCORE Voltage, 3.3V Voltage, 5V Voltage, 12V Voltage

The onboard hardware monitor automatically detects the voltage output through the onboard voltage regulators.

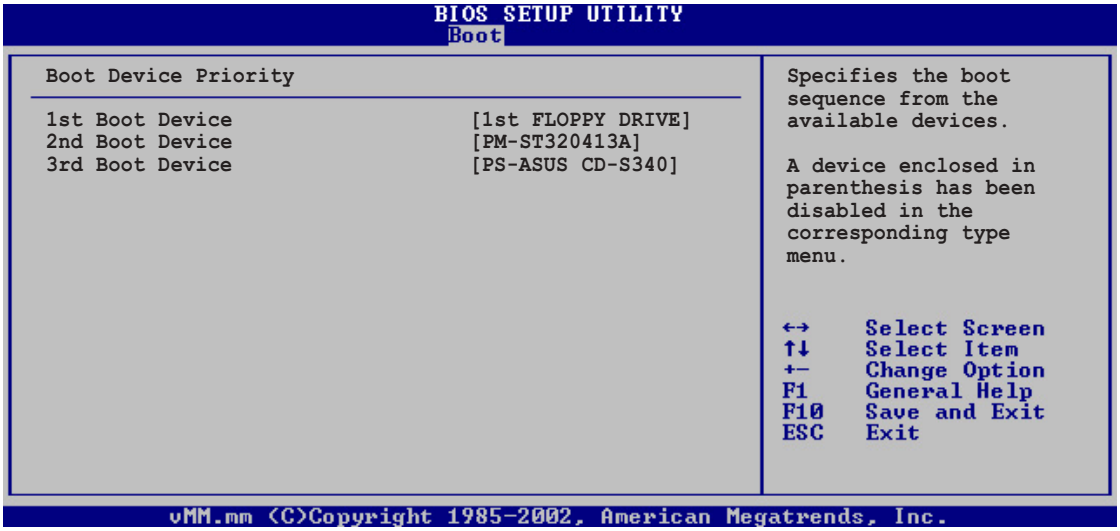
If any of the monitored items is out of range, the following error message appears: “Hardware Monitor found an error. Enter Power setup menu for details”. You will then be prompted to “Press F1 to continue or DEL to enter SETUP”.

2.6 Boot menu

The Boot menu items allow you to change the system boot options. Select an item then press Enter to display the sub-menu.



2.6.1 Boot Device Priority


BIOS SETUP UTILITY
Boot
Boot Device Priority
1st Boot Device [1st FLOPPY DRIVE]
2nd Boot Device [PM-ST320413A]
3rd Boot Device [PS-ASUS CD-S340]
Specifies the boot sequence from the available devices.
A device enclosed in parenthesis has been disabled in the corresponding type menu.
↔ Select Screen
↑↓ Select Item
+- Change Option
F1 General Help
F10 Save and Exit
ESC Exit
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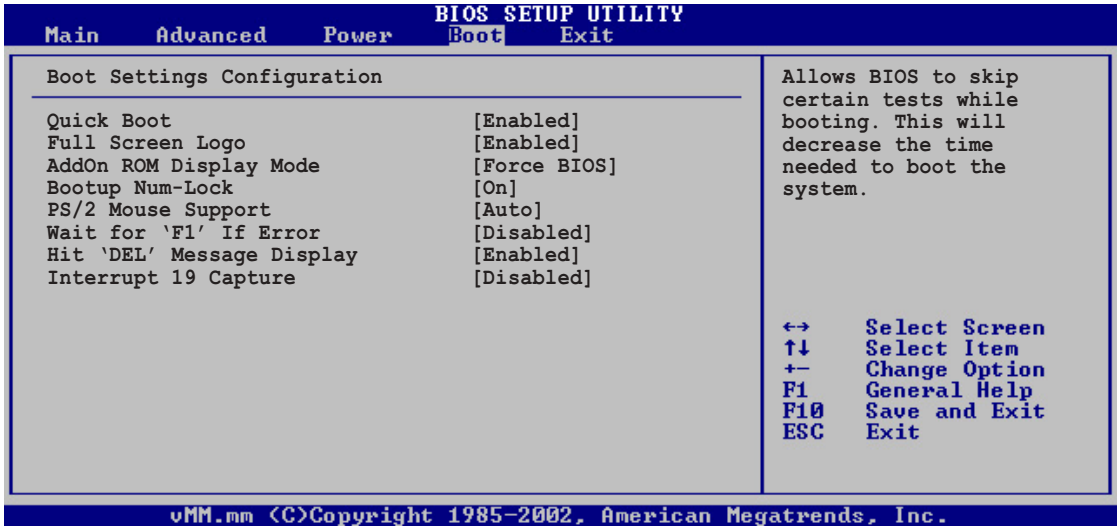
1st ~ xxth Boot Device [1st FLOPPY DRIVE]

These items specify the boot device priority sequence from the available devices. The number of device items that appear on the screen depends on the the number of devices installed in the system. Configuration options: [xxxxx Drive] [Disabled]

2.6.2 Boot Settings Configuration


BIOS SETUP UTILITY
Main Advanced Power Boot Exit
Boot Settings Configuration
Quick Boot [Enabled]
Full Screen Logo [Enabled]
AddOn ROM Display Mode [Force BIOS]
Bootup Num-Lock [On]
PS/2 Mouse Support [Auto]
Wait for 'F1' If Error [Disabled]
Hit 'DEL' Message Display [Enabled]
Interrupt 19 Capture [Disabled]
Allows BIOS to skip certain tests while booting. This will decrease the time needed to boot the system.
↔ Select Screen
↑↓ Select Item
+- Change Option
F1 General Help
F10 Save and Exit
ESC Exit
vMM.mm (C)Copyright 1985-2002, American Megatrends, Inc.

Quick Boot [Enabled]

Enabling this item allows BIOS to skip some power on self tests (POST) while booting to decrease the time needed to boot the system. When set to [Disabled], BIOS performs all the POST items. Configuration options: [Enabled] [Disabled]

Full Screen Logo [Enabled]

Allows you to enable or disable the full screen logo display feature
Configuration options: [Enabled] [Disabled]

Make sure the Full Screen Logo item is set to [Enabled] if you wish to use the ASUS MyLogo™ feature.

AddOn ROM Display Mode [Force BIOS]

Sets the display mode for option ROM.
Configuration options: [Force BIOS] [Keep Current]

Bootup Num-Lock [On]

Allows you to select the power-on state for the NumLock.
Configuration options: [On] [Off]

PS/2 Mouse Support [Auto]

Allows you to enable or disable support for PS/2 mouse.
Configuration options: [Auto] [Disabled] [Enabled]

Wait for 'F1' If Error [Disabled]

When set to Enabled, the system waits for F1 key to be pressed when error occurs. Configuration options: [Disabled] [Enabled]

Hit 'DEL' Message Display [Enabled]

When set to Enabled, the system displays the message "Press DEL to run Setup" during POST. Configuration options: [Enabled] [Disabled]

Interrupt 19 Capture [Disabled]

When set to [Enabled], this function allows the option ROMs to trap Interrupt 19. Configuration options: [Disabled] [Enabled]

2.6.3 Security

The Security menu items allow you to change the system security settings. Select an item then press Enter to display the configuration options.

Change Supervisor Password

Select this item to set or change the supervisor password. The Supervisor Password item on top of the screen shows the default **Not Installed**. After you have set a password, this item shows **Installed**.

To set a Supervisor Password:

1. Select the Change Supervisor Password item and press Enter.
2. On the password box that appears, type a password composed of letters and/or numbers, then press Enter. Your password should have at least six characters.
3. Confirm the password when prompted.

The message "**Password Installed**" appears after you have successfully set your password. The Supervisor Password item now shows **Installed**. To change the supervisor password, follow the same steps as in setting a user password.

To clear the supervisor password, select the Change Supervisor Password then press Enter. The message "**Password Uninstalled**" appears.

After you have set a supervisor password, the other items appear to allow you to change other security settings.

User Access Level (Full Access]

Allows you to select the access restriction to the Setup items
Configuration options: [No Access] [View Only] [Limited] [Full Access]

No Access prevents user access to the Setup utility.
View Only allows access but does not allow change to any field.
Limited allows change to only selected fields, such as Date and Time.
Full Access allows viewing and changing all the fields in the Setup utility.

Change User Password

Select this item to set or change the user password. The User Password item on top of the screen shows the default **Not Installed**. After you have set a password, this item shows **Installed**.

To set a User Password:

1. Select the Change User Password item and press Enter.
2. On the password box that appears, type a password composed of letters and/or numbers, then press Enter. Your password should have at least six characters.
3. Confirm the password when prompted.

The message “Password Installed” appears after you have successfully set your password. The User Password item now shows **Installed**. To change the user password, follow the same steps as in setting a user password

Clear User Password

Select this item if you wish to clear the user password.

Password Check [Setup]

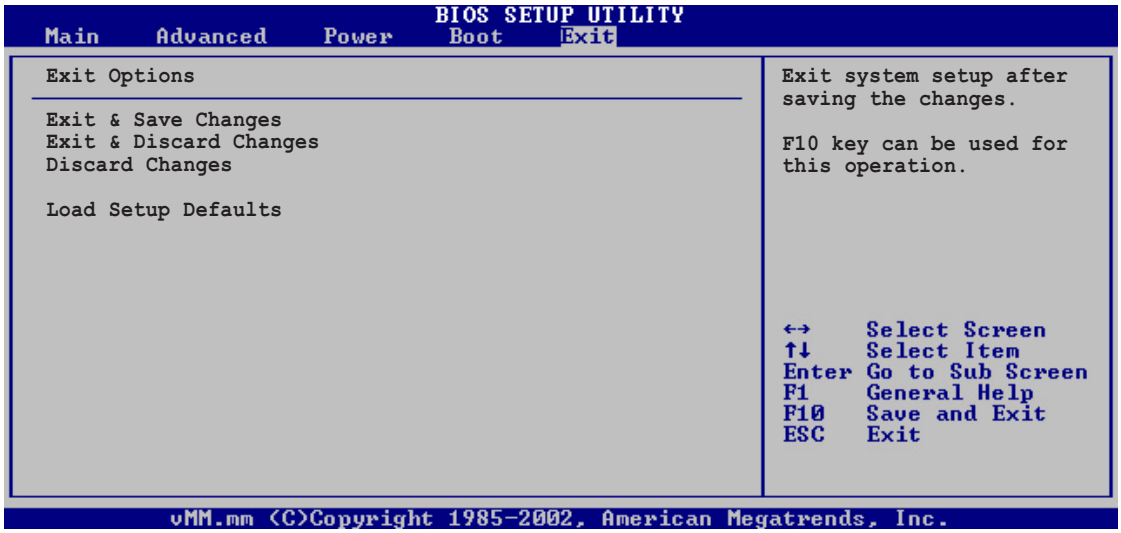
When set to [Setup], BIOS checks for user password when accessing the Setup utility. When set to [Always], BIOS checks for user password both when accessing Setup and booting the system. Configuration options: [Setup] [Always]

Boot Sector Virus Protection [Disabled]

Allows you to enable or disable the boot sector virus protection.
Configuration options: [Disabled] [Enabled]

2.7 Exit menu

The Exit menu items allow you to load the optimal or failsafe default values for the BIOS items, and save or discard your changes to the BIOS items.


BIOS SETUP UTILITY
Main Advanced Power Boot Exit
Exit Options
Exit & Save Changes
Exit & Discard Changes
Discard Changes
Load Setup Defaults
Exit system setup after saving the changes.
F10 key can be used for this operation.
↔ Select Screen
↑↓ Select Item
Enter Go to Sub Screen
F1 General Help
F10 Save and Exit
ESC Exit
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Pressing <Esc> does not immediately exit this menu. Select one of the options from this menu or <F10> from the legend bar to exit.

Exit & Save Changes

Once you are finished making your selections, choose this option from the Exit menu to ensure the values you selected are saved to the CMOS RAM. The CMOS RAM is sustained by an onboard backup battery and stays on even when the PC is turned off. When you select this option, a confirmation window appears. Select [Yes] to save changes and exit.

If you attempt to exit the Setup program without saving your changes, the program prompts you with a message asking if you want to save your changes before exiting. Pressing <Enter> saves the changes while exiting.

Exit & Discard Changes

Select this option only if you do not want to save the changes that you made to the Setup program. If you made changes to fields other than system date, system time, and password, the BIOS asks for a confirmation before exiting.

Discard Changes

This option allows you to discard the selections you made and restore the previously saved values. After selecting this option, a confirmation appears. Select [Yes] to discard any changes and load the previously saved values.

Load Setup Defaults

This option allows you to load the default values for each of the parameters on the Setup menus. When you select this option, or if you press <F5>, a confirmation window appears. Select [Yes] to load the default values. Select Exit & Save Changes or make other changes before saving the values to the non-volatile RAM.

Chapter 3

This chapter describes the contents of the support CD that comes with the motherboard package.

Software support

3.1 Install an operating system

This motherboard supports Windows® 2000/2003 Server/XP operating system (OS). Always install the latest OS version and corresponding updates so you can maximize the features of this motherboard.

Because motherboard settings and hardware options vary, use the setup procedures presented in this chapter for general reference only. Refer to your OS documentation for more information.

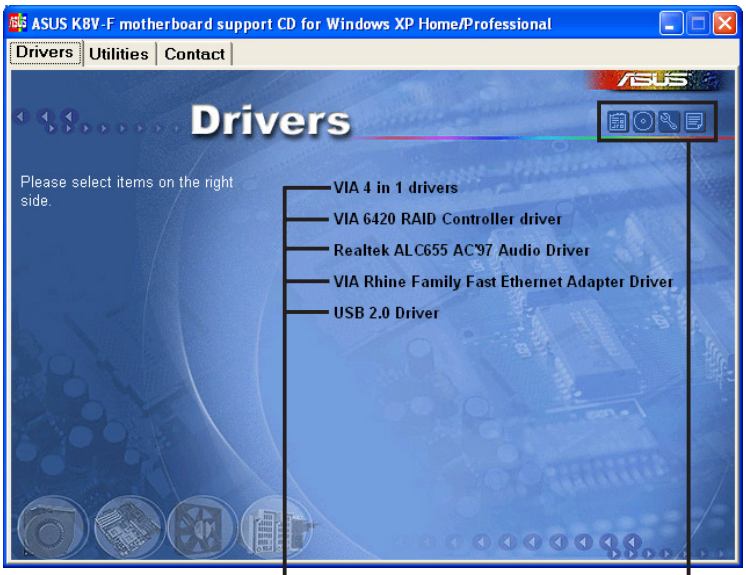
3.2 Support CD information

The support CD that came with the motherboard contains useful software and several utility drivers that enhance the motherboard features.

The contents of the support CD are subject to change at any time without notice. Visit the ASUS website for updates.

3.2.1 Running the support CD

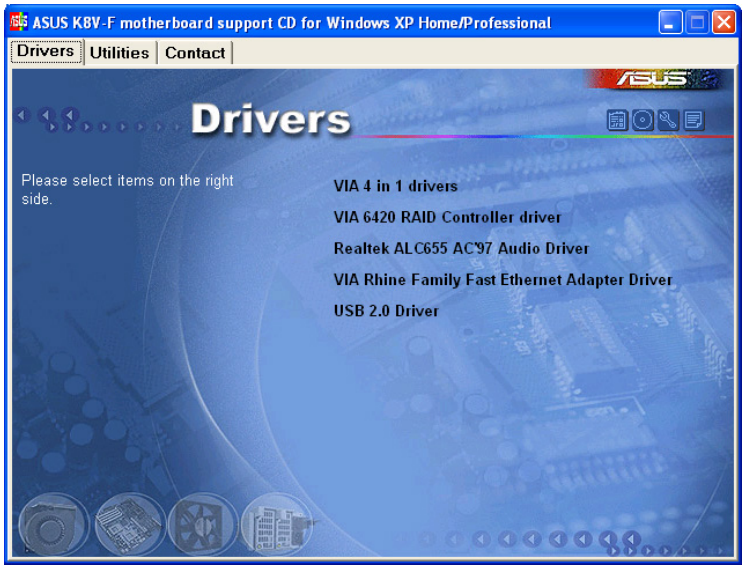
To begin using the support CD, insert the CD into your CD-ROM drive. The CD automatically displays the **Drivers** menu if Autorun is enabled in your computer.


ASUS K8V-F motherboard support CD for Windows XP Home/Professional
Drivers
Utilities
Contact
Drivers
Please select items on the right side.
VIA 4 in 1 drivers
VIA 6420 RAID Controller driver
Realtek ALC655 AC'97 Audio Driver
VIA Rhine Family Fast Ethernet Adapter Driver
USB 2.0 Driver
Click an item to install
Click an icon to display more information

If **Autorun** is NOT enabled in your computer, browse the contents of the support CD to locate the file ASSETUP.EXE from the BIN folder. Double-click the **ASSETUP.EXE** to run the CD.

3.2.2 Drivers menu

The drivers menu shows the available device drivers if the system detects installed devices. Install the necessary drivers to activate the devices.


ASUS K8V-F motherboard support CD for Windows XP Home/Professional
Drivers
Utilities
Contact
Drivers
Please select items on the right side.
VIA 4 in 1 drivers
VIA 6420 RAID Controller driver
Realtek ALC655 AC'97 Audio Driver
VIA Rhine Family Fast Ethernet Adapter Driver
USB 2.0 Driver

VIA 4-in-1 drivers

Installs the following drivers:

- VIA Registry (INF) driver
- VIA AGP VxD driver
- VIA ATAPI vendor support driver
- VIA PCI IRQ Miniport driver.

VIA 6420 RAID Controller Driver (optional)

Installs the VIA 6420 RAID controller driver and application.

Realtek ALC655 AC'97 Audio Driver

Installs the driver for the onboard Realtek ALC655 audio CODEC.

VIA Rhine Family Fast Ethernet Adapter Driver

Installs the VIA Fast Ethernet adapter driver.

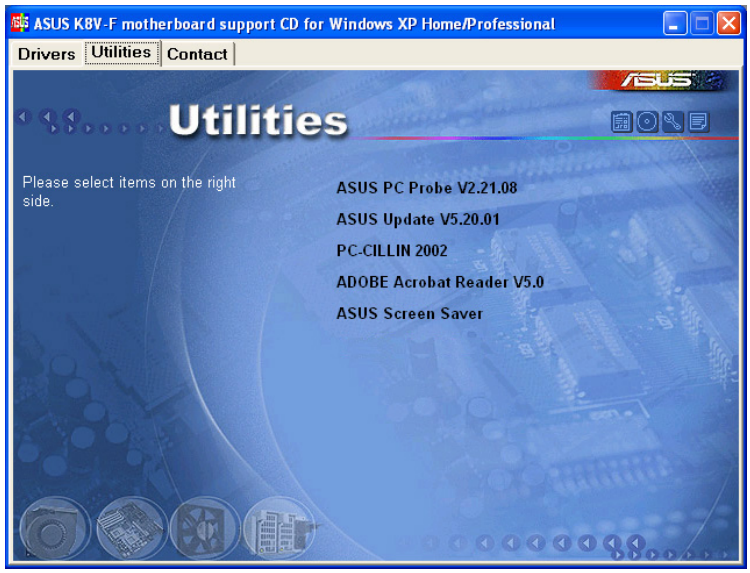
USB 2.0 Driver

Installs the USB 2.0 driver to upgrade your USB 1.1 ports to USB 2.0.

You may not install the USB 2.0 driver if you are using Windows XP SP1a (Service Pack 1a).

3.2.3 Utilities menu

The Utilities menu shows the applications and other software that the motherboard supports.



ASUS PC Probe

Continuously monitors vital system information such as fan rotations, CPU temperature, and system voltages, and alerts you on any detected problems. This utility helps you keep your computer in a healthy operating condition.

ASUS Update

Installs the ASUS Update that allows you to update the motherboard BIOS in Windows® environment. See page 2-6 for details.

PC-CILLIN™ 2002

Installs the PC-cillin™ 2002 anti-virus program. View the PC-cillin online help for detailed information.

Adobe® Acrobat Reader® V5.0

Installs the Adobe® Acrobat Reader® V5.0. The Acrobat Reader software is for viewing files saved in Portable Document Format (PDF).

ASUS Screen Saver

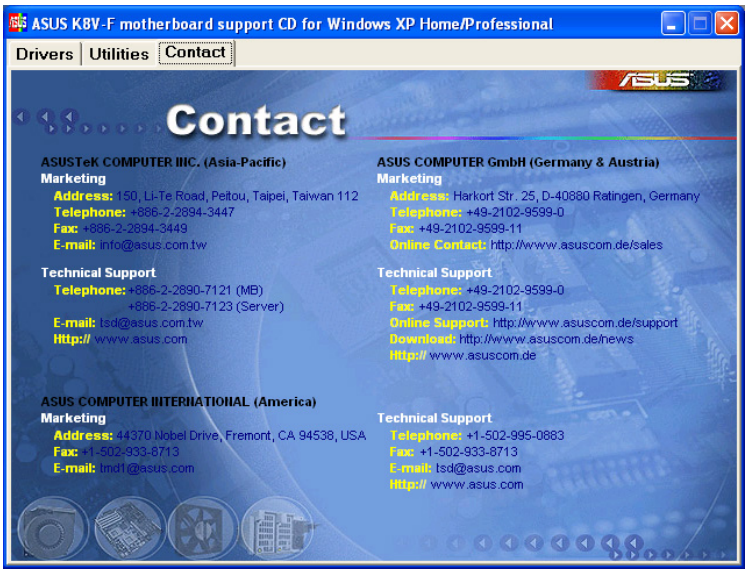
Installs the ASUS screensaver

Cool 'n' Quiet™ Software

This item installs the AMD Cool 'n' Quiet™ application.

3.2.4 ASUS contact information

Click the Contact tab to display the ASUS contact information.



Screen display and utilities option may not be the same for other operating system versions.